



County Palatine of Chester.

REPORT

OF THE

Medical Officer of Health

FOR THE YEAR 1907,

WITH STATISTICAL INFORMATION AND
SUMMARY OF REPORTS OF DISTRICT
MEDICAL OFFICERS OF HEALTH.

PRESENTED TO THE

PUBLIC HEALTH COMMITTEE

OF THE COUNTY COUNCIL,

July 17th, 1908.

CHESTER:

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REPORT
OF THE
Medical Officer of Health,

For the Year ending December 31st, 1907.

*To the Public Health Committee of the County Council
of the County Palatine of Chester,
and to the Members of the County Council.*



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Report of the Medical Officer of Health,

For the Year ending December 31st, 1907.

The Census of 1901 was taken on April 1st. A full Report of the Census of the County of Chester, containing a detailed and final examination of the Census Returns, as tabulated at the Registrar-General's Office, was issued in the Autumn of 1902. All the Census figures used in the preparation of the Report of the County Medical Officer of Health for the year 1901, were from the Census Preliminary Report, dated May 23rd, 1901, and a Preliminary Abstract issued therewith. All the Census figures used in the preparation of the Report of the County Medical Officer of Health for the years 1902, 1903 and 1904, were from the full Report of the Census of the County of Chester, the summary to which is dated August 10th, 1902. All the Census figures to be used in the preparation of this Report for the year 1907, will be from the same full Report of the Census.

The Ancient or Geographical County of Chester, which is a County Palatine, contained according to revised returns furnished by His Majesty's Ordnance Survey Department, an area of 657,783 statute acres. At the date of the Census in 1901, its population numbered 815,099 persons. In 1801 the population was 192,305; it has, therefore, increased during the century more than four fold.

The Registration County contained, at the date of the Census in 1901, an area of 644,143 statute acres, and a population of 792,913.

The Administrative County—The area and population of the Administrative County and the three County Boroughs,

at the date of the Census in 1901 are shown in the following statement :—

	Area in Acres.	Population, Census, 1901.
Administrative County and three County Boroughs	654,825	827,191
Deduct—		
County Borough of Birkenhead ...	3,848	110,915
County Borough of Chester ...	2,862	38,309
County Borough of Stockport* ...	2,197	78,897
Administrative County	645,918	599,070

The increase in the population of the Administrative County, since 1891, apart from the County Boroughs was shewn by the Census of 1901 to be 63,126, or 11.8 per cent.; in the County Boroughs it was 20,896, or 10.1 per cent.

The Census population of the Municipal Boroughs, the other Urban Districts, and the Rural Districts in the Administrative County, and the increase or decrease in the several Boroughs and Districts is conveniently shown in tabular form as follows :—

Municipal Boroughs.	Population Enumer- ated, 1901.	Increase or Decrease of Population between 1891 and 1901.		Percentage of Increase or Decrease between 1891 and 1901.	
		Increase	D'crease	Increase	D'crease
Congleton	10707	...	37	...	0.34
Crewe	42074	9300	...	28.37	...
Dukinfield	18929	1544	..	8.88	...
Hyde	32766	2096	...	6.83	...
Macclesfield	34624	...	1385	...	3.84
Stalybridge	27673	890	...	3.32	...
6 Municipal Boroughs	166773	12408	...	8.03	...

* It is convenient to consider Stockport as entirely in Cheshire.

Other Urban Districts.	Population Enumer- ated, 1901.	Increase or Decrease of Population between 1891 and 1901.		Percentage of Increase or Decrease between 1891 and 1901.	
		Increase	D'crease	Increase	D'crease
Alderley Edge ...	2856	575	...	25.20	...
Alsager ...	2597	685	...	34.82	...
Altrincham ...	16831	4391	...	35.29	...
Ashton-upon-Mersey	5563	1329	...	31.38	...
Higher Bebington ...	1540	119	...	8.37	...
Lower Bebington ...	8398	3182	..	61.00	...
Bollington ...	5245	...	90	...	1.68
Bowdon ...	2788	...	4	...	0.14
Bredbury and Romiley	7107	1286	...	22.09	...
Bromborough ...	1891	151	...	8.67	...
Buglawton ...	1452	70	...	5.06	...
Cheadle and Gatley ...	10820	2568	...	31.12	...
Hale ...	4562	1987	...	77.16	...
Hazel Grove & Bramhall	9791	1923	...	24.44	...
Hollingworth ...	2447	...	448	...	15.47
Hoole ...	5341	1449	...	37.23	...
Hoylake & West Kirby	10911	4366	...	66.70	...
Knutsford ...	5172	529	...	11.39	...
Lymm ..	4707	...	288	...	5.76
Marple ...	5595	751	...	15.50	...
Middlewich ...	4669	699	..	17.60	...
Mottram ...	3128	...	142	...	4.34
Nantwich ..	7722	310	...	4 18	...
Neston and Parkgate ...	4154	577	...	16.13	...
Northwich ...	17611	2697	...	18.08	...
Runcorn ...	16491	...	3559	...	17.75
Sale ...	12088	2444	...	25.86	...
Sandbach ...	5558	...	266	...	4.57
Tarporley ...	2644	...	58	...	2.14
Wallasey ...	53579	20350	...	61.24	...
Wilmslow ...	7361	1017	...	16.03	...
Winsford ...	10382	...	58	...	0.55
Yeardsley-cum-Whaley	1487	252	...	20.40	...
33 other Urban Districts	262488	48794	...	22.83	...

Rural Districts.	Population Enum- erated 1901.	Increase or Decrease of Population between 1891 and 1901.		Percentage of Increase or Decrease between 1891 and 1901.	
		Increase	D'crease	Increase	D'crease
Bucklow	19890	2097	...	11.78	...
Chester	10989	165	...	1.52	...
Congleton	12220	...	285	...	2.33
Disley	2827	567	...	25.08	...
Macclesfield	15775	...	121	...	0.76
Malpas	4488	...	136	...	2.93
Nantwich	23197	285	..	1.24	...
Northwich	22073	1119	...	5.34	...
Runcorn	23244	...	674	...	2.81
Stockport	2288	...	3	...	0.13
Tarvin	12614	...	89	..	0.70
Tintwistle	2105	...	471	...	18.24
Wirral	18099	...	530	...	2.84
13 Rural Districts ...	169809	1924	...	1.14	...

In all cases of change of area between 1891 and 1901, the enumerated population in 1901 is compared with the enumerated population of the new area in 1891.

It is thus seen that the six Municipal Boroughs in the Administrative County, taken together, increased in population 8 per cent., although the population of 2 of these Boroughs decreased. This is, as a whole, a small increase for towns. The only Borough in which a really important increase took place in 1891-1901, was Crewe, where the population increased $28\frac{1}{8}$ per cent.

The 33 other Urban Districts, taken together, show an increase in population of nearly 23 per cent. during the decennium, 1891-1901. In 9 of these Districts the population decreased; the decrease in the case of Runcorn being $17\frac{3}{4}$ per cent., and in the case of Hollingworth, being about $15\frac{1}{2}$ per cent. However, the remaining 24 Districts all show an increase; and in several of them the increase of population is remarkable. Thus, in Lower Bebington it was 61 per cent., in Wallasey upwards of 61 per cent., in Hoylake and West Kirby upwards of 66 per cent., and in Hale upwards of 77 per cent.

The population of the Rural Districts, taken together, increased little more than 1 per cent. in the decennium, 1891-1901. In Bucklow the increase was $11\frac{3}{4}$ per cent., and in Disley 25 per cent. Still of the 13 Rural Districts, 8 decreased in population during the decennium; the decrease in the case of Tintwistle being upwards of 18 per cent.

Population at Midsummer, 1907.—The population of the Administrative County as enumerated at the taking of the Census on April 1st, 1901, was, therefore, 599,070, and it was distributed as follows:—

6 Municipal Boroughs	...	...	166,773
33 other Urban Districts	...	..	262,488
13 Rural Districts	...	...	169,809

On November 9th, 1901, the Civil Parish and County Borough of Stockport was extended to include (1) part of the Civil Parish of Brinnington (Census population, 404), in Stockport Rural District, (2) part of the Civil Parish of Bredbury and Urban District of Bredbury and Romiley (Census population, 20), also (3) part of the Civil Parish of Cheadle and Urban District of Cheadle and Gatley (Census population, 2,904), and (4) part of the Civil Parish of Hazel Grove-cum-Bramhall and Urban District of Hazel Grove and Bramhall (Census population, 1857).

On April 1st, 1902, the Civil Parish of Compstall (Census population, 875) ceased to belong to Stockport Rural District, and became an Urban District. On the same day, the Civil Parish of Whitby (Census population, 4082) ceased to belong to Wirral Rural District, and became Ellesmere Port and Whitby Urban District.

Thus, the population of the Administrative County of Chester was, owing to extension of Stockport County Borough, reduced by 5,185 persons—that is 4,781 persons from 3 Urban Districts, and 404 persons from a Rural District. The formation of 2 new Urban Districts has still further reduced the population of the Rural Districts by 4,957, this number of persons being transferred to the Urban Districts.

On September 19th, 1902, Stockport Rural District was again reduced, the part of the Civil Parish of Brinnington (Census population 98), yet belonging to Stockport Rural District, being transferred to Bredbury and Romiley Urban District.

All that remained in Stockport Rural District in 1903 was the Civil Parish of Handforth. This obtained Urban powers as the Urban District of Handforth in September, 1904. The

formation of this new District reduced the population of the Rural Districts by 911, this number of persons being transferred to the Urban Districts.

The Census population of the area representing the Administrative County, in the middle of the year, 1907, was therefore 593,885, and it is distributed as follows :—

6 Municipal Boroughs	...	...	166,773
36 other Urban Districts	...	...	263,673
12 Rural Districts	...	...	163,439

The population of the Administrative County in the middle of the year 1907, is estimated to have been 653,995, distributed as follows :—

6 Municipal Boroughs	...	...	176,193
36 other Urban Districts	...	...	303,448
12 Rural Districts	...	...	174,354

Estimates of population in the several Boroughs and Districts are made by the Medical Officers of Health. It will be observed that many Medical Officers of Health do not consider that the local population increased at all between April 1st, 1901, and Midsummer, 1907. Certainly, the estimates taken together (60,110) for six years and three months, on a population of 593,885, is not excessive.

Area and Density of Population.—The area of the Districts in the Administrative County amounts to 644,180 acres. At the date of the Census this area was 645,918 acres, and it was thus distributed :—

6 Municipal Boroughs	...	...	15,587 acres
33 other Urban Districts	...	...	79,419 „
13 Rural Districts	...	...	550,912 „

However, owing to the extension of the County Borough of Stockport, 196 acres were lost to Stockport Rural District, 192 acres were lost to Bredbury and Romiley Urban District, 726 acres were lost to Cheadle and Gatley Urban District, and 624 acres were lost to Hazel Grove and Bramhall Urban District; while 1,738 acres were lost to the Administrative County. Owing to Compstall (903 acres) having been made an Urban District, and to Ellesmere Port and Whitby (1261 acres) having been made an Urban District, Handforth (1312 acres) having been made an Urban District, and to part of Brinnington (451 acres) having been taken from Stockport Rural District and given to Bredbury and Romiley Urban District, 3,927 acres were transferred from the Rural Districts

to the Urban Districts. The area of the Districts in the Administrative County, in the middle of the year 1907, has been therefore thus distributed :—

6 Municipal Boroughs	...	...	15,587 acres
36 other Urban Districts	...	...	81,805 „
12 Rural Districts	...	...	546,788 „

Thus in the whole Administrative County there is just over one (1.01) person to an acre. In the 6 Municipal Boroughs, taken together, there were 11.30 persons to an acre. In the 36 other Urban Districts, taken together, there were 3.72 persons to an acre. In the 12 Rural Districts, taken together, the proportion was 0.32 to an acre. The great difference in the density of population is very marked in the various Districts. Thus, in the Alrincham Urban District there are upwards of 27 persons to an acre, in Crewe nearly 22 persons to an acre, in Wallasey just 20 persons to an acre, and in Hoole upwards of 18 persons to an acre, while in many Rural Districts there is but 1 person to several acres.

Marriages.—Reference to the number of marriages used to be made in two or three Reports. In the Reports for 1907 the matter appears to be referred to once only.

At Crewe the marriage-rate in 1907 (the number of persons married during the year per 1000 living) was 13.0. In the ten years, 1897-1906, the Crewe marriage-rate averaged 12.65. The local marriage-rate is always interesting, and might have been given more frequently in Medical Officers' Annual Reports.

Births.—The number of births registered in the Administrative County in 1907 was 15,579. The birth-rate was therefore 23.8 per 1000 living. The birth-rates per 1000 living were in some few instances fairly high, and in many instances very low. It will be seen in Table I. that at Neston and Parkgate the birth-rate was 39.3, at Ellesmere Port and Whitby it was 35.2, at Lower Bebington 32.4, and at Runcorn 30.1 ; whereas at Bowdon the birth-rate was only 13.2 per 1000 living. The birth-rate in the Municipal Boroughs was 23.6, in the other Urban Districts 24.7, in the Rural Districts 22.5, and in the Administrative County 23.8 per 1000 living. In the whole of England and Wales the birth-rate for 1907 was 26.3 per 1000 living, which is 0.8 per 1000 below the rate in 1906, and lower than the rate in any other year on record. Compared with the average in the ten years 1897-1906, the birth-rate in 1907 showed a decrease of 2.1 per 1000. The birth-rate in the 76 great towns in England and Wales (representing in the aggregate a population of 16,024,458), was 27.0.

Thus, during 1907 the birth-rate in Cheshire was 2.5 below the very low birth-rate of the whole country.

Deaths.—The number of deaths registered in the Administrative County in 1907 (excluding the deaths of persons not belonging thereto, and including the deaths of persons registered elsewhere belonging to the County) was 8,954. The death-rate was therefore 13.6 per 1000 living. The natural increase to the population (excess of births over deaths) during 1907 was therefore 6,625. This compares unfavourably with the natural increase of 7,186 in 1906 and the increase of 6,838 in 1905, but favourably with the natural increase of 6,480 in 1904. There is a considerable difference in the death-rates of the several Districts. They range from 21.7 in the Borough of Stalybridge, 21.1 in the Borough of Dukinfield, and 19.2 at Higher Bebington, to 8.2 at Hale, and 8.0 in Hoylake and West Kirby. The death-rate in the Municipal Boroughs was 16.4, in the other Urban Districts 13.0, in the Rural Districts 12.0, and in the Administrative County 13.6. In the whole of England and Wales the death-rate for 1907 was 15.0 per 1000 living, which is 0.4 per 1000 below the rate of 1906, and lower than the rate in any other year on record. Compared with the average rate in the ten years 1897-1906, the death-rate in 1907 shows a decrease of 1.7 per 1,000. The death-rate in the 76 great towns in England and Wales (representing in the aggregate a population of 16,024,458), was 15.4.

Thus, during 1907, the death-rate in Cheshire was 1.4 below the unprecedentedly low death-rate of the whole country. During 1907 the death-rate of the Cheshire Boroughs was exactly one death per 1000 above the death-rate in the 76 great towns in England and Wales.

Infantile Mortality.—A ready method of estimating the relative prevalence of infant mortality is by calculating the proportion of deaths under one year of age to each 1000 of registered births. Here, again, great differences were recorded in different Districts during 1907. The proportion was very large in the Borough of Dukinfield (221 per 1000) and in the Borough of Stalybridge (218 per 1000). However in some Urban Districts the proportion was exceptionally low, for example in Tarporley (32 per 1000) and in Lower Bebington (34 per 1000). The proportion in the Municipal Boroughs was 154 per 1000, in the other Urban Districts 105 per 1000, in the Rural Districts 81 per 1000, and in the Administrative County 112 per 1000. The proportion during 1907 in the whole of England and Wales was

118 per 1000 births, and in the 76 great towns, taken together, in England and Wales (representing in the aggregate a population of 16,024,458) the proportion was 127 per 1000 births. Compared with the average in the ten years 1897-1906 the infantile mortality for the whole country in 1907 shows a decrease of 27 per 1000, and was lower than that in any other year on record. This was mainly due to the showery and exceedingly cool summer experienced in 1907, which checked the rise in the rate of child-mortality, usually occurring in the third quarter of the year. Thus the infantile mortality-rate in Cheshire for 1907 was 6 per 1000 lower than the corresponding rate in the whole country—the lowest on record. However, the infantile mortality in the Cheshire Municipal Boroughs in 1907 was 27 per 1000 higher than in the 76 great towns in the whole country.

The variation in weather conditions, and the incidence of epidemics, influence the general death-rate from year to year, and, as surely, increase or decrease the mortality among infants. However, the question to be considered for the whole of England and Wales, and for every County is not—Why did the infant mortality-rate rise in one year or fall in another year? but, Why is the infant mortality-rate always high in certain districts? The infant mortality-rate being high in a particular year may be due to the incidence of sun and rain, the passing of a wave of epidemics, and such recondite causes: but the infant mortality-rate being high year after year in some special district, or part of a district, is not to be explained in this ready way, so that no one can be made responsible. A high infant mortality-rate, maintained year after year in any district, must be due to local insanitary conditions in that district, which it behoves the Local Authority to discover and remove.

The inquiry of practical importance is therefore—which are the Districts in Cheshire where a high rate of infant-mortality is maintained? The answer is obvious, and indeed has been given in previous Annual Reports. In 1907 it happened that the highest rates of infant-mortality were recorded in the following sanitary districts:—

	Deaths of Infants per 1000 births.
Borough of Dukinfield ...	221
Borough of Stalybridge ...	218
Yeardsley-cum-Whaley Urban District...	187
Bromborough Urban District ...	185
Bredbury and Romiley Urban District...	183
Borough of Hyde ...	169
Nantwich Urban District ...	146

The two towns at the head of the list in 1907 have for many years occupied conspicuous positions in similar lists. The Borough of Dukinfield was able to record a somewhat lower rate (176 per 1000) in 1906, but it was at the head of the list, with 196 per 1000, in 1905. In 1904 this rate was equal to 198 per 1000. In 1903 and 1902 the infantile mortality-rates were respectively 194 and 184. However, the records in 1902-1905 show considerable improvement on the ten years 1892-1901, when the annual number of deaths of infants was equal to 228 per 1000 born. The record for 1906, though decidedly bad, indicated a marked improvement on the record of recent years, but unfortunately the improvement was not maintained, the record in 1907 being nearly as bad as in 1892-1901. In the Borough of Stalybridge, also, the infantile mortality-rate has for long been very high. It was equal to 206 per 1000 births in 1906, 177 in 1905, and 204 in 1904. However, the proportion in the ten years 1894-1903, averaged 206 per 1000 born. Thus, despite all the efforts of the Corporation to cope with this evil, the infantile mortality-rate is not reduced. The report of the Medical Officer of Health on the infantile mortality-rate of 1907 is as follows :—

“ In my previous reports I have dealt with the evil results of improper feeding and of exposure to cold during the first year of life, and have referred to the fact that the Council have repeatedly called public attention to these matters with the idea of impressing parents and guardians with their serious importance, and in June I was asked by the Sanitary Committee to make inquiries of similar boroughs as to their experience of the utility of Lady Health Visitors. Following upon my report a sub-committee was appointed in August ‘to consider and report as to the advisability of appointing a Lady Health Visitor for the Borough,’ with the result that in December a fully qualified and experienced Lady Sanitary Inspector was appointed to commence her duties at the beginning of February.”

“ The Notification of Births Act, 1907, has been adopted for the Borough, and will come into force on March 1st, 1908.”

“ It is anticipated that these steps will greatly assist in reducing the infantile mortality, which is admitted by all to be far in excess of what should be in our Borough.”

In Yeardsley-cum-Whaley the infantile death-rate being so high in 1907 is of no special significance, since the whole population of the District is only 1554. In the years immediately preceding this death-rate averaged only 110.5 per 1000 births.

With reference to Bromborough Urban District, the observations of the District Medical Officer of Health are somewhat

similar. The estimated population is only 2029, and the infantile-mortality rate during recent years has not been markedly high.

The infant-mortality being exceptionally high, (183 per 1000) in Bredbury and Romiley, it appears to have been due, largely, to an outbreak of whooping-cough in the District. If it had not been for this, the rate would have been about 148 per 1000. This District is not one which has recorded a markedly high infant-mortality hitherto.

In the Borough of Hyde the infant-mortality rate for 1907 was 30 below the average in the 10 years 1897-1906. This appears to have been mainly due to pneumonia and bronchitis, the deaths from measles and whooping-cough were about the average number, and the deaths from diarrhœa were decidedly below the average.

In Nantwich Urban District the number of deaths of infants was 131, a rate of 146 per 1000. The rate is still high, though lower than in previous year, the chief causes of death, 8 premature births, and 6 infantile-debility.

It will thus be seen that the 3 Sanitary Districts which for many years have had a bad record as regards infant-mortality, are the Municipal Boroughs of Stalybridge, Hyde, and Dukinfield.

Many Medical Officers of Health point out that greater prominence should be given in the elementary schools to the systematic teaching of personal and domestic hygiene; and that, for those who have left school and become householders, a little instruction from lady-visitors who are mothers themselves will accomplish much.

To sum up briefly, it may be said that the main causes of a high rate of infant mortality are :—

1. The employment in factories of those about to become mothers, and those who have been recently confined and should be nourishing their infants.
2. The infants of factory-employed mothers being badly cared for, and ill-fed during the absence of their mothers at work.
3. The environment of the infant being insanitary owing to the system of storing garbage and filth close to the house, and the absence of proper paving of yards leading to soil pollution.
4. There being no provision for isolating infectious children or disinfecting infectious bedding, etc.
5. The ignorance common among working women as to how an infant should be fed, clothed and managed.

Facts as to Infantile-Mortality.—With the Official Memorandum as to Annual Reports of Medical Officers of Health, issued by the Medical Officer of the Local Government Board, and dated November, 1905, is a new form (Table V.) for recording facts as to infant-mortality. The form has to be filled in and appended to all Annual Reports of all Medical Officers of Health. In the Memorandum is the following reference to this Form :—

“ Table V. affords opportunity for record in detail of
 “ facts as to infant-mortality. It is well known that in
 “ many parts of this country the infantile death-rate
 “ remains unduly high ; that it differs widely in districts
 “ the circumstances of which are not definitely dissimilar ;
 “ and that within the limits of a given sanitary area this
 “ death-rate may exhibit striking diversities. Not a few
 “ Medical Officers of Health, in their annual reports—
 “ more particularly in reports for recent years—have dealt
 “ in detail with this subject, thus making important con-
 “ tributions to the better understanding of conditions which
 “ conduce to infant-mortality. Nevertheless, statistics
 “ available in this connexion do not afford, except in a
 “ broad and general way, satisfactory basis for comparison
 “ of district with district, nor, indeed, always for useful
 “ contrast of different sections of the same district.”

“ A table of the sort now prepared permits record in
 “ regard of each sanitary district as a whole (as also in
 “ respect to each of particular sub-divisions of his district
 “ which the Medical Officer of Health may select for com-
 “ parison) of certain facts as to infant-mortality in each of
 “ the several weeks of the first month of life and in subse-
 “ quent months ; facts which when accumulated for a series
 “ of years, may prove of definite value in instituting com-
 “ parisons such as have been referred to. In the text of his
 “ annual report, the Medical Officer of Health will, no doubt,
 “ comment on the facts that he has recorded in his table or
 “ tables, offering at the same time, observations on the con-
 “ ditions which, in his view, have mainly contributed to any
 “ special infant-mortalities witnessed, and giving account of
 “ any measures adopted to ameliorate those conditions
 “ regarded by him as specially hostile to infant life. In so
 “ far as modification of procedure for the purpose, or of law
 “ in facilitating such modification, is in his opinion necessary,
 “ the Medical Officer of Health is invited to state his views.

“ It is not proposed that reports on the above lines be
 “ limited to districts exhibiting unduly high infantile death-
 “ rates. Data are desirable respecting districts low in the
 “ scale of infant mortality, with comment by the Medical

“Officer of Health on the facts that he is recording, and
 “indication of the conditions which, in his view, have principally
 “conduced in his district, to comparatively insignificant
 “infantile death-rate.

“Additional copies of Table V. form can be obtained
 “on application to the Board by Medical Officers of Health.”

Memorandum on the Feeding, Care and Management of Young Children.—During 1900, with a view of giving information on the above subject, the County Medical Officer of Health was instructed by the Public Health Committee to draft a leaflet or pamphlet for the instruction of the elder girls in Elementary Schools, and of mothers and others having the care of young children. A short pamphlet was accordingly prepared and has been largely circulated. It was printed on July 27th, 1900. By order of the Public Health Committee this pamphlet was re-printed in November, 1906. It appeared in full in the Annual Report for 1900.

Recommendations of Committee on Infantile Mortality.—The Sub-Committee of the Public Health Committee of the County Council appointed to confer with Representatives sent by the Corporations of Dukinfield, Hyde, and Stalybridge, on the subject of the high infant mortality within their respective Boroughs, held conferences in the Summer and Autumn of 1901, at Dukinfield, Hyde, and Stalybridge. This Sub-Committee subsequently reported that, having carefully considered the statements of the County Medical Officer in his Annual Reports as to the high rate of infant mortality prevailing in the Municipal Boroughs of Stalybridge, Hyde, and Dukinfield, listened to statements and explanations from the District Medical Officers of Health, and Representatives of the several Town Councils, and having been shown several workmen's dwelling-houses, sanitary and insanitary, besides other objects of interest from a sanitary point of view in the several Boroughs, they are satisfied that the Town Councils of the several Boroughs named are anxious to reduce the high death-rate among infants within their respective Boroughs; and, while admitting that a great deal has been done with this object, they submit that it is only by a strict enforcement of all the powers possessed by the Corporations under the Public Health and other Acts, that any appreciable reduction in such death-rate is likely to result, and they accordingly recommend, for the consideration of the Town Councils of the said Boroughs :—

1. That full information be obtained with reference to every infant whose death takes place before it has completed its

first year, as in this way only can the actual facts as regards infantile mortality and its causes be ascertained. The kind of information needed is shown in the particulars submitted by the Medical Officer of Health for Dukinfield, as to the deaths of infants under a year old from March to August, 1901. (Vide Table VI., Dr. Park's pamphlet of "Information and Statistics").

2. That having regard to Sec. 61 of the Factory and Workshop Act, 1901, the Borough Authorities would do well to enquire from time to time whether proper steps are taken by the Managers of local factories employing women to ensure that no woman or girl is permitted to begin or resume work in any of the said factories for at least one month after giving birth to an infant.

3. That the Town Councils of Stalybridge and Hyde should well consider the advantages of opening a dépôt in each Borough, for the preparation and sale at a cheap rate, of humanized and sterilized milk, put up in bottles containing one meal each. Such dépôts have been opened at St. Helens and Dukinfield,* and with marked success in Liverpool.

4. That as the amount of yard space in the rear of many dwelling-houses in each of the three Boroughs is obviously too small, and could only have been allowed through building bye-laws which are not up to date being in force, the Borough Authorities should take steps to make building bye-laws the provisions of which shall be generally in accord with the model bye-laws issued by the Local Government Board.

5. That as the storage of garbage and filth close to dwelling-houses is obviously insanitary, the Borough Authorities should take steps to obtain the conversion of privies into closets, flushed with clean water from separate service cisterns, and the getting rid of ashpits, providing in the place thereof galvanized iron ashbins with tight-fitting covers.

6. That the Borough of Stalybridge and Dukinfield should make proper provision for the isolation of infectious persons, the disinfection by steam of infectious bedding, and the cremation of refuse calculated to infect or pollute the air.

7. That as there is great ignorance among working women as to how infants and young children should be fed, clothed and managed, and as to the urgent need for cleanliness, the distribution of handbills and pamphlets among them being not alone sufficient

* In June, 1900, the Corporation of Dukinfield opened a dépôt for the sale at a cheap rate (2½d. for 9 bottles per day) of milk, prepared to imitate as nearly as possible mother's milk, and then sterilized, but the dépôt remained open only 18 months. The Medical Officer of Health regrets that it was found necessary to close it. Such a dépôt is of great use if properly managed and conducted. Mothers did not avail themselves of this aid to feeding their infants with the enthusiasm expected.

to remove such ignorance, each Borough Authority would do well to consider the expediency of appointing a Female Sanitary Inspector (one who has given evidence of her qualification) to visit the houses of the poor under the direction of the Medical Officer of Health, and instruct them as regards the management of infants and young children, and generally in all matters relating to domestic hygiene.

The Infant Life Protection Act, 1897.—This enactment, to amend the law for the better protection of infant life, is practically identical with the Earl of Denbigh's Bill of 1896, as amended by the Select Committee of the House of Lords. Section 2 provides that "any person retaining or receiving for hire or reward in that behalf more than one infant under the age of five years for the purpose of nursing or maintaining such infants apart from their parents for a longer period than forty-eight hours, shall within the said forty-eight hours give notice thereof to the Local Authority," that is: in the County of London to the London County Council, in the City of London to the Common Council; in other places in England to the Board of Guardians; in Scotland to the Parish Council; and in Ireland to the Board of Auardians. It is made the duty of the Local Authority to provide for the execution of the Act within its district, and for that purpose to make enquiries from time to time. Local Authorities are empowered to appoint Male or Female Inspectors to enforce the Act, and they are to fix the number of infants under five years which may be retained or received in any dwelling. This Act came into force in January 1st, 1898.

Illegitimate Infants.—The number of those born who were illegitimate is stated in several Reports, and the proportion varied considerably. In Knutsford Urban District 14 per cent. of those born were illegitimate. In Northwich Urban District 5 per cent. were illegitimate. In the Borough of Congleton 7.1 per cent. were illegitimate. In Winsford 7.7 per cent. were illegitimate. In Middlewich Urban District 4.2 were illegitimate. In the Borough of Crewe 3.3 per cent. were illegitimate. In the Borough of Hyde 2.27 of the births were illegitimate. It is in some districts difficult to compute the proportion of births which are illegitimate, as so many of them take place in work-houses. In a few Reports the deaths of illegitimate infants are taken out separately. Such information, enabling one to compare the mortality of illegitimate infants with the mortality of those born in wedlock, is of considerable interest. Thus in Winsford 4.4 per cent. of the illegitimate infants died within the year, and 10.9 per cent. of the legitimate. In Middlewich 33 per cent. of illegitimate infants died, and 9 per cent. of legitimate.

In Northwich Urban District 8 per cent. of illegitimate infants died, and 12.3 of legitimate. In some districts the illegitimate infants seem to fare better than the legitimate, however, the districts referred to are so few, and the numbers dealt with are so small that it would not be reasonable to make general deductions therefrom.

The Sub-Committee, in conclusion, expressed the hope that, as a result of the Conferences, some good will be accomplished in reducing the high infant mortality in these Boroughs.*

As bearing upon the subject of infant mortality, an Act of some importance, passed in 1897, may be referred to.

At the National Conference on Infantile Mortality, held at Caxton Hall, Westminster, on April 23rd, 24th and 25th, the following Resolutions were passed :—

RESOLUTIONS.

1. That this Conference expresses its appreciation of Parliament having passed the Notification of Births Act, 1907, and urges upon all Local Authorities the importance of adopting the Act and appointing qualified women to carry out its provisions.
2. That, in order to combat the prevalent ignorance resulting in wastage of infant life and injury to the health of many survivors, the Conference urges upon the Board of Education, and upon Educational Authorities generally, the importance of securing to all girls in every grade of school a satisfactory training in domestic and personal hygiene and the duties of womanhood.
3. That the Conference welcomes most gladly the Children's Bill, introduced into the House of Commons by Mr. Herbert Samuel, M.P., for the amendment of the Infant Life Protection Act, 1897, and recommends the Executive Committee to ask that the Bill be specially amended to include the case in which one child only is put out to nurse for reward ; and that the Bill be further amended to empower Local Authorities to charge upon the rates the cost of carrying out the existing statutory provisions for the prevention of cruelty to children.
4. That the Conference, being convinced of the injury done to infant life and health through infants being

* In connection with this subject it is interesting to note that the better protection of child-life and reducing high rates of infantile mortality are continuing to receive attention from many Sanitary Authorities.

taken into public houses, urges upon Parliament the necessity of providing such legislation as will prevent this.

5. That this Conference urges upon Boards of Guardians the advisability of making greater use of their existing powers to adopt, under the Poor Law Act, 1899, the children of incorrigible parents.
6. That all preparations offered or sold as foods or drugs for infants should be certified by a Government Analyst as non-injurious, and that each packet should contain its analysis.
7. That, in view of the unsatisfactory conditions under which milk is produced and distributed, the Conference, being of opinion that immediate amendment of the law is desirable, urges upon Parliament the necessity of at once taking such steps as are necessary to effect this.
8. That the Conference re-affirm the resolution of the former Conference, that the Midwives Act, 1902, be extended to Scotland and Ireland.
9. That the Conference continue as a Committee to give effect to the foregoing Resolutions, with power to remit to an Executive Committee to carry out the same.

Still-born Children.—There is only one reference to still-born children. In the Report for the Borough of Crewe it is briefly stated that the number of still-born infants brought to the cemetery and to Coppenhall Churchyard to be buried in 1907 was 72, that is 5.7 per cent. of the births registered, being slightly above the average for previous years. In the 18 years, 1890-1907, the annual number of still-born infants thus buried ranged from 36 in 1890 to 72 in 1907. About 4 per cent. of births are still ordinarily.

The reason why so little information is given under this head is because still-births are not required to be registered, as they are in some countries. The still-born are not officially recognised, and anyone may bring the little body to a local sexton, usually with a certificate from a midwife or nurse stating that it was still-born, and have it interred in some informal manner as the sexton may think fit. This is not quite safe or seemly ; and for the better protection of infant life it is desirable that every

birth—still or quick—should be subject to compulsory registration. Though any person who buries the body of a deceased child as if it were still-born is liable, on conviction, to a penalty of £10, under the present system there appears to be nothing to prevent an infant who has lived a few minutes or a few hours being clandestinely conveyed to a nameless grave without the cause of death being certified or inquired into. It is also obvious that through there being no register for still-births, concealment of birth is facilitated.

Mortality among Old People—The proportion of old people among those who died in 1907 was fairly large, thus shewing that a considerable percentage of the population attain a ripe age before death removes them. Out of the 8954 deaths in the Administrative County of Chester in 1907 no less than 2688 were of persons 65 years old and upwards, being 30 per cent. This compares favourably with 28.8 per cent. in 1906, 28.4 per cent. in 1905, 26.9 per cent. in 1904, and 26.75 per cent. in 1903. During 1907 the percentage was 25.7 in the Municipal Boroughs, 28.4 in the other Urban Districts, and 38.0 in the Rural Districts.

It will be noticed that, while the infantile mortality is highest in the Municipal Boroughs and lowest in the Rural Districts, the mortality among old people is highest in the Rural Districts and lowest in the Urban Districts.

Uncertified Deaths.—The deaths not certified by a qualified Medical Practitioner or made the subject of judicial enquiries before a Coroner are ordinarily indicated on the Registrar's returns; but in only a few Annual Reports is there any reference to the matter, except to the uncertified deaths of infants. In the few Districts where information is given under this head, the figures recorded appear to indicate that the proportion of uncertified deaths in the County is small. During 1907, in the whole of England and Wales, the proportion of deaths not certified by a Medical Practitioner, or a Coroner, was only 1.4 per cent.

It would be well for all Medical Officers of Health in the County to note cases of death not certified by a Registered Medical Practitioner or Coroner.

Coroners' Inquests.—In comparatively few of the Annual Reports are particulars as to Coroners' Inquests held during the year. In the Borough of Crewe 6.7 per cent. of the deaths were referred to the Coroner, and inquests held thereon. In the Borough of Hyde, in 7.9 of the deaths, inquests were held. At Knutsford, in 3 per cent. of deaths, inquests were held. At

Winsford, in 9 per cent. of the deaths, inquests were held. Of the deaths registered in England and Wales in 1907, there were 6.9 per cent. in which inquests were held. As verdicts of the Coroners' Juries are ordinarily entered in the Registrar's returns, such information as is available might appropriately be included in their Annual Reports by all Medical Officers of Health in the County. Except as regards deaths due to injuries, the official inquiry is little worth recording. Such verdicts as "Found dead," "Death by visitation of God," "Natural causes," and "Probably syncope," are not precise enough to be of use for purposes of classification.

Zymotic Diseases.—The 7 principal zymotic diseases are small-pox, measles, scarlet fever, diphtheria, whooping-cough, fever, and diarrhoea, yet when the term "principal zymotics" is used, it is not always understood in the same sense. Some Medical Officers of Health include under the heading "diphtheria" all deaths registered as croup; others, deaths registered as diphtheria only. Again, some Medical Officers of Health include under the heading, "fever," typhus, enteric, or typhoid, continued, relapsing, and puerperal fevers; others include the first four only, or the first three only. The wise course is to follow the practise adopted in making up the Registrar General's returns. In these summaries croup is included with diphtheria, except of course spasmodic croup, and the term "fever" includes typhus, enteric, simple continued fever, and pyrexia of uncertain origin.

In 1907 the number of deaths of persons belonging to the Administrative County from the undermentioned zymotic diseases was as follows:—233 measles, 67 scarlet fever, 93 diphtheria and membranous croup, 166 whooping-cough, 40 fever, and 123 diarrhoea. The deaths ascribed to the principal zymotic diseases in 1907 were therefore 722, and the principal diseases death-rate in 1907 was 1.1 per 1,000 living. The principal zymotic diseases death-rate was 1.6 in the Municipal Boroughs, 1.0 in the other Urban Districts, and 0.7 in the Rural Districts.

The number of deaths from puerperal fever, erysipelas and other diseases which belong to the zymotic group of diseases, but do not class as "principal zymotics" will be referred to later.

The death-rate for each of the seven principal zymotic diseases has been calculated for the Administrative County, for the whole of England and Wales, and for the 76 large towns in the Kingdom.

The results are as follows:—

1907.	Deaths per 1000 living.		
	For Cheshire.	For the whole of England and Wales.	For the 76 great towns in England and Wales.
Small-pox	0·00	0·00	0·00
Measles	0·35	0·36	0·43
Scarlet Fever	0·10	0·09	0·12
Diphtheria and Membran- ous Croup... ..	0·14	0·16	0·17
Whooping Cough	0·25	0·29	0·35
Fever	0·06	0·07	0·07
Diarrhoea	0·19	0·29	0·40
	1·14	1·26	1·54

This shows that the mortality from measles, diphtheria, whooping cough, fever and diarrhoea was lower in Cheshire than in the whole country and in the large towns. The mortality from scarlet fever was just above that of the whole country but below that of the large towns. As regards small-pox no mortality appears in the return. There were, however, nine deaths from small-pox in the whole of England and Wales during 1907.

The mortality from the seven principal zymotic diseases, taken together, in 1907, was equal to a death-rate of 1.14 in Cheshire, being 0.12 lower than the corresponding death-rate in the whole country, and 0.40 lower than corresponding death-rate in the great towns.

The practice in respect of four of the zymotic diseases (small-pox, measles, scarlet fever, and diphtheria), as expressly stated in many of the Reports, appears to be to obtain the isolation of patients as far as practicable, and the disinfection of infected rooms, clothing, bedding, etc., to prevent children belonging to infected houses from attending school, and, if possible, from playing with other children, to endeavour to discover the cause of the disease, to have the premises examined and defects remedied, and, in case of small-pox, to try and induce the inmates of infected houses or any "contacts" to be vaccinated or re-vaccinated. The source of the milk supply and water supply are noted, and often companions of the patient are examined to see if they are suffering from infectious disease. In case of an outbreak of measles or scarlet fever, it is not unusual to advise the closing of the local schools, and occasionally an outbreak of diphtheria is the cause of this advice being given.

In the case of whooping-cough less appears to be attempted, but infected children are ordinarily kept from school, and, if

possible, from playing with other children ; while, exceptionally, the closing of local schools is advised, owing to an outbreak of whooping-cough. On typhoid fever being reported the practice is similar to that adopted in dealing with scarlet fever, or diphtheria, but the incidence of this disease is not so largely on school children.

At Dukinfield all cases of infectious disease are notified to the Librarian at the Free Library, so that no book may be lent out to those living in an infected house ; and, if a library book happens to be already in the house, it is disinfected or destroyed. In the town of Northwich, also, all cases of infectious disease are notified to the Librarian at the Free Library, and owing to this notification several books have been withdrawn from circulation which otherwise might have spread infection.

In Wallasey all cases of infectious disease are notified to the Free Public Library, and during 1900 a special chamber was provided in which infected books have been since disinfected by formic aldehyde.

Small-pox.—No case of small-pox occurred in Cheshire in 1907. As already stated only 9 occurred in the whole of England and Wales.

The plan adopted in dealing with every case of small-pox, should such occur, is as follows :—

- (1) The infected person is sent to hospital.
- (2) Each member of the infected household is vaccinated.
- (3) All members of the infected household are taken in a special conveyance to Hyde Isolation Hospital, where, while they are having a disinfecting bath, their clothes are put through the steam disinfector.
- (4) During their absence the house is thoroughly stoved, and the bedding, etc., destroyed.
- (5) The members of the household are then allowed to return to their several employments.

The number of cases of small-pox and deaths therefrom in Cheshire during the fifteen years immediately preceding 1907 was as follows :—

Year.	Cases notified.				Deaths.	
1892	82	...	...	8
1893	312	...	...	32
1894	38	...	...	6
1895	18	..	...	2
1896	3	...	...	0
1897	0	..	...	0
1898	0	..	...	0
1899	0	...	...	0
1900	25	...	...	5
1901	3	...	..	0
1902	78	...	...	2
1903	202	...	...	12
1904	213	...	...	18
1905	35	...	...	2
1906	7	...	...	0
Annual Average			67.7	5.8		

It may be well, before passing on to another subject, to state briefly what should be learned from the outbreaks of small-pox in Cheshire during 1902---1907.

Local Sanitary Authorities :

1. Should do all they can to promote efficient vaccination and re-vaccination.
2. Should be provided with sufficient Isolation Hospital accommodation for small-pox.
3. Should take steps to make chicken-pox notifiable.
4. Should arrange for the systematic inspection of all places frequented by tramps.
5. Should take such steps as are available for getting rid of insanitary property in which all infectious disease tends to spread.

Vaccination Returns, as made by the local Vaccination Officers, are given by the Medical Officers of Health for several districts. According to the return from the Borough of Crewe 75 per cent. of the children born in 1907 (excluding those who died unvaccinated) were successfully vaccinated at the end of the year. This is a good record, as parents are allowed a period of six months in which to have their children vaccinated. The return from Dukinfield, which for many years has been far from satisfactory, is improving. In 1902 70.4 per cent. of the infants who survived were successfully vaccinated at the end of the year. During 1903

the record was less satisfactory, as only 62.7 per cent. of surviving infants were vaccinated at the end of the year ; in 1904 the record was a little worse, as only 60.6 per cent. of the surviving infants were vaccinated at the end of the year, but in 1905 there was an improvement, as 68.25 per cent. of the surviving infants were vaccinated at the end of the year. In 1906 only 51 per cent. of the surviving infants were vaccinated at the end of the year ; but in 1907 71.7 per cent. were vaccinated.

The return for Wallasey is made up differently. It relates to the children born in the years ending June 30th, 1903, 1904, 1905, 1906 and 1907. In the first of these years it is reported that (by the end of the year) only 3 per cent. of the surviving infants had escaped vaccination, in the next (by the end of the year) only 1.9 per cent. of the surviving infants had escaped vaccination, in the third year (by the end of the year) only 2.5 of the surviving infants had escaped vaccination, while in 1906 only 2.1 per cent. escaped, and in 1907 only 0.9 escaped vaccination.

Reports from smaller Districts are almost as satisfactory. Perhaps the most convincing returns are those from the Medical Officer of Health for Bucklow Rural, and Knutsford, Middlewich and Winsford Urban Districts. As regards his Rural District, and the Urban Districts of Altrincham, Bowdon, Hale, Sale, Ashton-upon-Mersey, Lymm, Knutsford and Wilmslow, in the same Union, it is stated that 94.2 per cent. of the surviving children were successfully vaccinated in 1905. The corresponding percentage in the 11 years 1896—1906 was 93.4 per cent.

During 1906 in the Middlewich Sub-District of Northwich Union (of which the town of Middlewich forms about two-thirds) over 96 per cent. of the surviving children were successfully vaccinated, and during the 11 years, 1896—1906, the percentage was 95. In the Over Sub-District of Northwich Union (of which the town of Winsford forms more than three fourths) 94 per cent. of the surviving infants were vaccinated in 1905, and in the, and during the 11 years, 1896—1906, the percentage was practically the same. These are remarkable records, as it is not unreasonable to assume that the surviving children whose vaccination was medically postponed on certificate, and those removed and traced have been ultimately vaccinated in the same proportion.

The changes effected by the Vaccination Act, 1898, have been helpful in promoting vaccination, and objections to it are disappearing. The improvements which several of the provisions of the Act introduce into the machinery of vaccination administration have apparently appealed to the good sense of parents, so

that the outcome has been a very marked increase in efficient vaccination. The small number of conscientious objectors to vaccination who obtained certificates exempting their children from the operation is referred to in several Reports. In Crewe, certificates of exemption were obtained for 9 per cent. of the infants born, in Dukinfield certificates of exemption were obtained for 6.3 per cent. of the infants born. In Wallasey the number of conscientious objectors is very small: in 1907 certificates of exemption were obtained for only 0.67 per cent. of the infants born.

The Vaccination Act, 1898.—The main provisions of this Act are as follows:—

The period within which the parent or person having the custody of a child shall cause it to be vaccinated shall be six months from the birth of the child.

The Public Vaccinator of the District shall, if the parent or person having custody of the child so requires, visit the home of the child for the purpose of vaccinating it.

If a child is not vaccinated within four months after its birth, the Public Vaccinator of the District, after at least twenty-four hours' notice to the parent, shall visit the home of the child, and shall offer to vaccinate the child with glycerinated calf-lymph, or such other lymph as may be issued by the Local Government Board.

The Public Vaccinator shall not vaccinate a child if, in his opinion, the condition of the house in which it resides is such, or there is or has been such a recent prevalence of infectious disease in the district, that it cannot be safely vaccinated; and in that case shall give a certificate of postponement of vaccination, and forthwith give notice of such certificate to the Medical Officer of Health for the district.

Notwithstanding any regulation of any lying-in hospital, etc., the parent of any child born in any such institution shall not be compelled to cause or permit the child to be vaccinated at any time earlier than the expiration of six months from its birth.

No parent or other person shall be liable to any penalty under Section 29 or Section 31 of the Vaccination Act of 1867, if within four months of the birth of a child he satisfies two Justices or a Stipendiary or a Metropolitan Police Magistrate, in Petty Sessions that he conscientiously believes that vaccination would be prejudicial to the health of the child; and within seven

days thereafter delivers to the Vaccination Officer for the district a certificate by such Justices or Magistrate of such conscientious objection.

This section shall come into operation at the passing of this Act ; but in its application to a child born before the passing of the Act, there shall be substituted for the period of four months from the birth of the child four months from the passing of the Act.

An Order under Section 31 of the Vaccination Act of 1867 directing that the child be vaccinated, shall not be made on any person who has previously been convicted of non-compliance with a similar Order relating to the same child.

No proceedings under Section 31 of the Vaccination Act, 1867, shall be taken against any parent or person who has been convicted under Section 29 of the said Act, on account of the same child, until it has reached the age of four years.

Persons committed to prison on account of non-compliance with any order or non-payment of fines or costs under the Vaccination Act shall be treated in the same way as first-class misdemeanants.

The Local Government Board may make rules and regulations with respect to the duties and remuneration of Public Vaccinators, whether under contracts made before or after the passing of this Act

The Local Government Board may, by Order, if in their opinion it is expedient by reason of serious risk of outbreak of small pox or other exceptional circumstances, require the Guardians of any Poor Law Union to provide vaccination stations for the vaccination of children with glycerinated calf-lymph or other lymph as may be issued by the Local Government Board, and modify as respects the area to which the Order applies, and during the period for which it is in force, the provisions of this Act requiring the Public Vaccinator to visit the house of the child otherwise than on request of the parent.

The Clerk of any Sanitary Authority which shall maintain a hospital for the treatment of small pox patients shall keep a list of the names, addresses, ages and condition as to vaccination, of all small-pox patients treated in the hospital, such entries to be made on admission, and shall at all reasonable times allow searches to be made therein and upon demand to give a copy of

every entry in the same on payment of a fee of sixpence for each search and threepence for each copy.

Certain portions of the Vaccination Acts of 1867 and 1871 are repealed during the continuance of this Act.

The Act does not extend to Scotland or Ireland. The Act, except as therein specially provided, came into operation on January 1st, 1899, and remains in force for five years only, unless, in the meantime, that period be extended.

Vaccination Order.—On October 18th, 1898, the Local Government Board issued a General Order rescinding all the previous Orders and Regulations relating to Vaccination, and prescribing amended Regulations under Section 6 of the new Act. The substitution of a system of domiciliary vaccination for stational arrangements considerably altered the duties of Public Vaccinators and added to their labours, so that a revision of their remuneration was rendered necessary. In the new regulations sums are mentioned which are to be the “minimum” fees payable by the Guardians to Public Vaccinators in respect of successful primary vaccination, and to Vaccination Officers. The new regulations also prescribe that the visit of the Public Vaccinator to the home of a child shall be between 9 a.m. and 4 p.m., except by mutual arrangement; that at least 24 hours’ notice shall be given by the Public Vaccinator of his intention to visit the home of a child, and that the visit shall (in the absence of any sufficient reason for delay) be made within two weeks after receipt of the request of the parent or notice from the Vaccination Officer.

Chicken-pox does not appear to have prevailed to a considerable extent in any District in the County.

Four cases were notified in Lymm Urban District and one in Wallasey.

This is a very small record. Doubtless in some other Districts there were a few cases, but as the disease is not required to be notified, the number of children attacked is uncertain. Little attention is paid to this disease, and it spreads through cases not being properly isolated. The Councils, Boroughs, and Districts would do well to add chicken-pox to the diseases required to be notified, as the Town Council of Hyde did, in February, 1903. There would be no difficulty in obtaining the approval of the Local Government Board. If chicken-pox were notified some effective steps could be taken to prevent it spreading, and in this

way cases of modified small-pox might occasionally come to the knowledge of the Authority. Chicken-pox is characterised by an eruption which may closely resemble that of discrete small-pox, and as the two diseases may be confounded, it is important that both should be notified. Moreover, chicken-pox is highly contagious, its infectivity being nearly equal to that of small-pox. As the age of maximum incidence is from three to four years, the disease may readily be communicated from pupil to pupil in Infant Schools.

Measles.—Cases of measles are not ordinarily reported to the Medical Officer of Health, and he seldom has any intimation of the presence of the disease till it proves fatal. The number of deaths from measles in 1907 in the Municipal Boroughs was 133, in the other Urban Districts 83, and in the Rural Districts 17, making a total of 233. In 1906 the number of deaths from measles was 84, in 1905 the number of deaths from measles was 142, in 1904 the number of deaths from measles was 295, in 1903 the number was 60, in 1902 the number was 197, in 1901 the number was 89, in 1900 the number was 161, in 1899 the number was 207, in 1898 the number was 182, in 1897 the number was 363, in 1896 the number was 81, in 1895 the number was 247, in 1894 the number was 143, in 1893 the number was 149, and in 1892 the number was 162. The mean annual number of deaths from measles in the 15 years, 1892-1906, was therefore 170.8. Thus the mortality from measles in 1907 was 62 above the average in the 15 years, 1892-1906. The measles death-rate in the whole country in 1907 was 0.36 per 1000 living, as compared with 0.35 in Cheshire.

A large proportion of the fatal cases of measles was complicated with bronchitis or pneumonia. As shewing how specially fatal this disease is among very young children, it may be noted that 71 per cent. of those who died from measles were under 5 years old. The popular idea about measles appears to be that it is a malady "all children must have, and the sooner it's over the better," and thus proper precautions for the patient's safety and to prevent the spread of infection are not taken. Of course, it is not true that all children must have measles. "If a child can be shielded from the infection of measles during the first five years of its life, its risk of subsequently acquiring the disease with all grave possibilities in the way of pulmonary complications is enormously reduced."

Great responsibility rests on the Medical Officer of Health in advising whether schools shall be closed owing to the prevalence of infectious disease. If this appears to be the best

practical means of arresting an outbreak, it should of course be tried.

Measles are required to be notified in four districts—Alderley Edge, Ashton-upon-Mersey, Lymm, and Wilmslow.

Children are most liable to attack in the third, fourth, or fifth year of life, but the disease is most fatal in the second year of life; and more fatal in the first and third years than afterwards. Measles is therefore pre-eminently a disease of very young children. In most of the districts where fatal cases occurred (as in previous years) there was evidence that the mortality was associated with "catching cold," showing that this should be specially guarded against. Though it is certainly true that about 90 per cent. of the deaths from measles in Great Britain occur among those under five years of age, and about 98 per cent. among those under ten, no age (even advanced age) affords protection. A far larger number of cases occurring among children than among adults, appears due to the fact that few escape infection during childhood. The maximum mortality for measles is attained in England and Wales in December; the minimum is attained in September; and next to December the mortality averages highest in June. This seems to indicate that extremes of temperature (which are not ordinarily favourable to the health of young children) are specially injurious to those infected with measles or just recovered therefrom.

A great deal has been written and spoken in favour of making measles notifiable; but it is very doubtful if much would be accomplished by this. Measles is not spread by milk, or drinking water, or caused by sewer gas, and no form of inoculation will protect a child; therefore, there is no particular reason why it should be notified. Owing to the infectiousness of measles for three or four days before the appearance of the eruption and consequently before the malady is recognised, brothers and sisters, and school-fellows susceptible have probably been infected before the patient can be picked out and isolated. Even if abundant free hospital accommodation were provided (and supplying accommodation for measles is scarcely contemplated in any district), for all who could not be properly isolated at home, so large a proportion of sufferers from measles are children of tender years, that parents would not generally consent to their removal.

To reduce enormously the mortality from measles, what is needed is not compulsory notification and hospital accommodation, but IMPROVED SANITARY ENVIRONMENT FOR THE HOMES IN

WHICH LITTLE CHILDREN ARE BROUGHT UP, AND THE BESTOWAL OF A LITTLE MORE CARE ON EACH CHILD ATTACKED. Ordinarily measles is a comparatively harmless malady in families comfortably off, but among the poor it is often very fatal. The main difference is that well-to-do people's children have been reared in healthy homes, and are put to bed as soon as the disease is recognised, while poor people's children are reared in crowded, ill-ventilated homes, and are left to run about after the disease is recognised.

Finally, it is well to note that the mortality due to measles is not represented solely by those who are certified as dying from it or its immediate sequelæ, for the deterioration of health it produces renders children peculiarly liable to fatal attacks of tuberculosis.

Scarlet Fever, sometimes called scarlatina, is required to be notified throughout the country; thus more is known of the incidence of scarlet fever than of measles.

In all, 3015 cases were notified in the Administrative County during 1907, and out of these 1564 (51.87 per cent.) were removed to hospital for isolation and treatment.

In the Municipal Boroughs 1040 cases were notified, and 702 were removed to hospital, that is 67.5 per cent.

In the other Urban Districts 1202 cases were notified, and 569 were removed to hospital, that is 47.3 per cent.

In the Rural Districts 733 cases were notified, and 293 were removed to hospital, that is 37.9 per cent.

In 1906 the proportion of notified cases of scarlet fever removed to hospital was 48.46 per cent, in 1905 the proportion of notified cases of scarlet fever removed to Hospital was 43.83 per cent., in 1904 the proportion of notified cases of scarlet fever removed to hospital was 44.33 per cent., in 1903 the proportion of notified cases of scarlet fever removed to hospital was 54.86 per cent., in 1902 the proportion of notified cases of scarlet fever removed to hospital was 36.57 per cent., in 1901 the proportion of notified cases of scarlet fever removed to hospital was 40.93 per cent., and in the nine years (1892-1900), the proportion of notified cases of scarlet fever removed to hospital was 20.4 per cent. Thus the record for 1907 compares very favourably with that of previous years. Indeed, a larger proportion of notified cases were isolated in hospital in 1907 than in any

previous year, except 1903. However, the proportion of cases removed to hospital does not appear to depend so much upon the need for removal as on the facilities offered. At Hyde, where there is a fine new hospital, 93.8 per cent. of the notified cases of scarlet fever were removed; and at Crewe, where there is an excellent hospital, 89.14 per cent. were removed. At Altrincham, where Lloyd's Fever Hospital is available, the 28 notified cases were all isolated in hospital. At the Borough of Macclesfield, where a temporary hospital is provided, 71.2 per cent. of the notified cases of scarlet fever were removed to hospital. At Wallasey, where there is a fine hospital, which has recently been enlarged, 73.7 per cent. of the notified cases of scarlet fever were removed to hospital.

In the Wirral Joint Hospital District, where good accommodation is available for one Rural District and six Urban Districts, 56.5 per cent. of the notified cases of scarlet fever were removed to hospital. On the other hand, at Dukinfield, where there is no hospital, although there were 169 cases of scarlet fever notified, only 3 were removed to hospital. At Stalybridge, where 81 cases were notified, not one case was removed, nor were any of the cases in the town of Congleton removed. There is no isolation hospital accommodation for infectious cases other than small-pox, available for either of these Boroughs. In many Reports the want of hospital accommodation for isolating initial cases is referred to.

The influence of schools in spreading scarlet fever is noted in many Reports, but school closing has not been resorted to as it used to be some years since. Again and again is reference made to the mildness of the disease, which in some instances led to cases not being recognised till they had infected others.

There are interesting notes in some Reports showing various ways in which it appeared that scarlet fever was spread, but there is more about school influence than anything else.

At Congleton there were only 7 cases, all of a light character.

At Crewe the number of cases notified was 100 per cent. in excess of the average; however, the disease does not seem to have spread much till the beginning of September. The cases notified in the four last months of the year were 67 per cent. of the whole number recorded. The mortality was extremely low, only 1.3 per cent.

Among the factors contributing to the spread of the disease probably none was of more importance than the type of the

disease. This was extremely mild, and led to a large number of cases being altogether overlooked until a late period. Some of these were only recognised after the occurrence of a second case of a more unmistakable character, or only after desquamation aroused suspicion as to the real nature of the sickness. With few exceptions these 'overlooked' cases had been going about freely, some to the week-day and Sunday schools, and several were detected by their teachers while sitting among their class-mates.

The influence, however, which school attendance had on the spread of the disease, was comparatively slight. It was chiefly at home that the disease was contracted, and this must be attributed to cases being able to go about during the early stages, and visitation by sympathetic neighbours whenever a child became ill. It is a fairly common practice for a neighbour to be called in to give an opinion as to the nature of any illness in a child, or to assist in nursing, and in this way many opportunities for the transference of the disease from house to house arise.

In Dukinfield, according to the frequently expressed belief of the Medical Officer of Health, the scarlet fever germ lives and thrives, and is readily conveyed by infection.

At Hyde the incidence of the disease resembled that at Crewe, over two-thirds of cases notified occurred in the last four months of the year and the case mortality was only 3.27 per cent.

At Hoylake and West Kirby infection seems to have been imported from Liverpool and Birkenhead, which, considering the free inter communication between the District and these towns, is not surprising. At Northwich Urban District the main cause of the spread of this disease appears to have been its exceptionally mild character, evidenced by the fact that although 221 cases were notified, not a single case proved fatal.

In Wallasey in 1907 there were 255 cases, 6 of which were fatal, a mortality of 2.35 per cent. In 1906, there were 266 cases, 6 of which were fatal, and in 1905, there were 348 cases notified, 6 of which were fatal. This is not a high mortality. Generally the disease was mild, but some of the cases were of a very malignant type. Often the attack was so mild that it was overlooked by the parents, and the disease was discovered only when others of the same household were infected. Such undetected cases, says the Medical Officer of Health, may and do attend public elementary schools even when "peeling" is going on. A circular, drawing attention to this danger, was sent to all the elementary schools in the District.

In Bucklow Rural District 53 cases were notified, and there was only 1 death. At Congleton there were 42 cases, 4 being fatal; all were treated at home. In some schools children were found in the "peeling" stage, and the schools were closed. In Macclesfield 70 cases were notified, but none were fatal. An early case was imported from Shropshire, in a desquamating state.

In Nantwich Rural District there were 149 cases and 4 deaths, 2.7 per cent. The cases were spread over 32 Townships, and in many instances the infection was imported from Crewe, or Nantwich Town. The exception was an outbreak at Wrenbury, which was entirely local. The school was closed and disinfected, and this put an end to the epidemic. In Northwich Rural District there were 230 cases and 4 deaths, 1.7 per cent. The hospital was taxed to its utmost capacity, but was unable to entirely cope with the outbreak.

If parents would only understand that there is a real advantage in protecting young children from scarlet fever, they would be more in earnest in carrying out the instructions given. "In shielding a child against infection during the first year of life," says a well-known writer, "there is a double gain; every year of escape from scarlet fever renders him less and less susceptible, until finally he becomes almost insusceptible; and even if he should ultimately take the disease, every year that the attack is deferred reduces the danger to life which it brings."

The number of deaths from scarlet fever in 1907 was 24 in the Municipal Boroughs, 26 in the other Urban Districts, and 17 in the Rural Districts, making a total for the County of 67. As already stated there were 3,015 cases, thus the deaths recorded in 1907 were 2.22 per cent. of the known cases of the disease.

In 1906 the deaths from scarlet fever were equal to 2.86 per cent. of the known cases. In 1905 the deaths were equal to 2.72 per cent. of the known cases of the disease. In 1904 the deaths were equal to 2.58 of the known cases of the disease; in 1903 the deaths were equal to 3.97 per cent. of the known cases; in 1902 the deaths were equal to 3.09 per cent. of the known cases; in 1901 the deaths were equal to 2.78 per cent. of the known cases; in 1900 the deaths were equal to 4.0 per cent. of the known cases; in 1899 the deaths were equal to 2.9 per cent., in 1898 the deaths were 3.98 per cent., in 1897 the deaths were 5.2 per cent., in 1896 the deaths were 4.6 per cent., in 1895 the deaths were 4.4 per cent., in 1894 the deaths were 4.5 per cent., and in 1893 the deaths were 4.8 per cent. of the known cases. The case-mortality in 1903 is therefore just below the average of

recent years in Cheshire, and the case-mortality in 1904, 1905, and 1906 is distinctly lower than in any previous year on record in the County. The London case mortality averages about 5 per cent., and any percentage not exceeding 4 per cent. may be considered fairly low.

Of the 67 persons who died from scarlet fever in Cheshire in 1907, there were 3 under a year old, 34 one year old and under 5 years, 26 five years old and under 15 years, and 2 upwards of 15 years old and under 25 years.

Return Cases.—This term is used to indicate cases re-appearing in households shortly after the return of a patient from hospital. Such cases are referred to in a very few Reports. In the Borough of Crewe it is fully realized there is no getting rid of the possibility of return cases, and the Medical Officer, when admitting to hospital any case of scarlet fever, sends a notice to the parents intimating that the Corporation will not be liable for future infection which may occur at home after the child's discharge. The Corporation of Macclesfield protect themselves as far as is practicable in a similar way.

Return cases cannot all be ascribed to inefficient disinfection of the discharged case, for they occur in connection with Isolation Hospitals where particular attention is paid to the cleansing of the skin and hair of each patient, where the mouth and nose are washed out with an antiseptic lotion, and every patient has an antiseptic bath before discharge. Indeed it is not easy to explain how these cases occur. In spite of the exercise of great care, it seems impossible to guarantee freedom from infectiousness on discharge. In a town in which scarlet fever is epidemic, it may not be possible to say if a recurrence in the same house is the result of infection from a recently returned member of the family from hospital or an independent infection from outside. However, when return cases occur in rural districts the evidence may be very strong either that the returned patient was himself infectious, or that infectious particles were retained in his clothes.

The Question of Auxiliary Hospital Provision.—In June, 1902, the Clerk to the Wirral Joint Hospital Board drew the attention of the Public Health Committee of the County Council to the fact that return cases of scarlet fever had occurred from time to time, apparently in consequence of some taint of the disease having been carried back by the patient to his home, although kept for a long time in hospital, and not discharged until the doctor thought him entirely free from infection. The Board were advised that the best way to prevent this would be to provide

a convalescent hospital—say at Heswall or some place quite away from the fever hospital—where patients could be transferred for about a fortnight before being sent home. The Clerk concluded by asking, if the Board were to borrow money to buy a site for and build such a hospital, whether the Council would contribute towards that, in the same way they propose to do to ordinary isolation hospitals.

The Public Health Committee, on receipt of this communication from the Clerk to the Wirral Joint Hospital Board, resolved: "That the Clerk obtain an expression of opinion from the Local Government Board whether the Local Authorities (including Joint Boards) within the meaning of the Public Health Act, 1875, have the legal power to provide auxiliary Infectious Hospitals for the use of persons discharged from ordinary Infectious Hospitals, so as to permit of County Councils contributing under the Isolation Hospitals Acts towards the cost of providing the same if they should consider it expedient or advisable to do so."

The Clerk accordingly wrote to the Local Government Board, and received a reply, under date September 25th, 1902, "that the auxiliary hospital referred to may properly be held to form part of the scheme of hospital accommodation for the provision of which the Joint Hospital Board in question was constituted."

The Wirral Joint Hospital Board having acquired a plot of land with a house thereon, at Pensby, adapted the house for use as a Convalescent Home. Suitable cases from the Board's isolation hospital have since been sent to this Home. Patients, after being examined by the Board's Medical Officer, and certified free from infection and ready for discharge, are frequently sent to this Home (for fourteen days or longer) before returning to their friends.

During 1907 the Corporation of Birkenhead, having experienced much difficulty in obtaining a site for a small-pox hospital, approached the Wirral Joint Hospital Board, and asked permission to join with them in providing a small-pox hospital, to be erected on the land referred to above. When the necessary negotiations are completed a joint small-pox hospital will, no doubt, be erected. Of course the house lately used as an auxiliary hospital for scarlet fever convalescents will no longer be so used.

Diphtheria and Croup are diseases which appear to be notified very irregularly. During 1907 there were 873 cases of diphtheria (including membranous croup) notified, and 93 cases proved fatal, 10.6 per cent. Of these, 263 cases were removed to

hospital, 3.1 per cent. As diphtheria and membranous croup are required to be notified, and as deaths from both are returned under the same column, they must be taken to represent one disease, viz., diphtheria. What the disease is which is returned as croup, and yet not membranous croup, seems uncertain, but it certainly should not be classed under this heading. Possibly the deaths assigned to "croup" may have been spasmodic croup.

In the Municipal Boroughs 16.5 per cent. of the cases were fatal, in the other Urban Districts 8.1 per cent. of the cases were fatal, and in the Rural Districts 11.2 per cent. of the cases were fatal. The death-rate per 1000 living in the Municipal Boroughs was 0.14, in the other Urban Districts was 0.11, and in the Rural Districts was 0.2. In the whole Administrative County the diphtheria death-rate was 0.14 per 1000 living, that is 0.02 below the corresponding death-rate in England and Wales.

In the Borough of Crewe there were 37 cases and 6 deaths. The average number of deaths since 1874 has been 7. There was very little evidence of a tendency to spread, for in only one instance notified did a second case occur in the same house.

In Northwich Urban District 30 cases were notified, 5 of which were removed to hospital. Two of the 30 cases proved fatal. Many cases appear in this town, as the ground is in parts much polluted, and, owing to subsidences, efficient drainage is beset with difficulties. In Runcorn Urban District there were 81 cases notified, of which not one was isolated in Hospital. Four cases were fatal. In this town also there has been much pollution of the soil in time past, and in parts the housing is still not under good sanitary conditions.

At Wallasey 92 cases were notified, of which 62 were isolated in hospital. Seven of those attacked died, and this is equal to 7.6 per cent. This is rather worse than the record in recent years.

In Runcorn Rural District out of 79 cases notified 13 proved fatal. In Nantwich Rural District there were 42 cases of diphtheria, and 4 deaths.

In several instances the influence of insanitary environment is referred to as a factor, in localities where outbreaks of diphtheria have arisen. Generally the disease seems to have been spread from person to person, especially in schools or workshops where ventilation was imperfect. Weakly children, and those having delicate throats, or having recently recovered from another infectious disease, seem specially liable to be infected. When a

case occurs, isolation is not easy in the houses of working people, and hospital accommodation for cases of diphtheria is not generally available.

Of the 93 persons who died from diphtheria or membranous croup in 1907, 2 were infants under a year old, 55 were a year old and under 5 years, 36 were 5 years old and under 15 years.

The Diagnosis of Diphtheria.—The need of assistance in diagnosing cases which may or may not be diphtheria, is generally recognised by Medical Officers of Health; and expression is given to this need in several Reports. The Medical Officer of Health for the Borough of Crewe has made arrangements with Dr. Delépine, Professor of Pathology, of the Victoria University of Manchester, for having material from doubtful cases of diphtheria and typhoid fever examined bacteriologically. These arrangements were made at the close of 1896, and a copy of the circular letter on this subject sent during December, 1896, to every Medical Practitioner in Crewe, was printed in the summary of the Crewe Health Report for 1896. This letter explained what it was proposed to do, and the manner of doing it. During 1897 similar arrangements were made with Professor Delépine by the Medical Officers of Health for Alderley Edge and Bollington, and during 1898 similar arrangements were made with Professor Delépine by Medical Officers of Health for the Borough of Congleton, the Urban Districts of Altrincham, Knutsford, Middlewich, Northwich, and Winsford, and the Rural Districts of Bucklow and Nantwich. During 1899 similar arrangements were completed for the Boroughs of Dukinfield and Hyde, and the Urban Districts of Ashton-upon-Mersey, Cheadle and Gatley, Hollingworth and Marple. During 1900 similar arrangements were made for the Urban Districts of Bredbury and Romiley, Hale, and Wilmslow, and the Rural District of Northwich. Similar arrangements were made in 1901 for Bowdon Urban District, and early in 1902 for Lymm Urban District, and in 1903 Runcorn Rural District had the advantage of similar arrangements. Communications have been made to all other Districts in the County, pointing out the advantage of affording facilities for the early diagnosis of diphtheria and typhoid fever. The Corporation of Macclesfield have made arrangements for having pathological material bacteriologically examined at the Jenner Institute. Nantwich Urban District Council have made arrangements with Professor Boyce, of Liverpool University, for having material from doubtful cases of diphtheria and enteric fever examined bacteriologically.

The Antitoxin Treatment of Diphtheria.—In certain diseases the blood serum of artificially protected animals, if

injected into others still susceptible, has a protective power. Behring found that such a serum could be used to protect from diphtheria and to cure the disease, and after many experiments produced a serum strong enough to be of use for man. Since this discovery, Behring, Aronsohn, and others, have, after various trials, succeeded in showing how to produce a very strong, trustworthy, preparation of serum ; and abundant proof has been given of the value of this so-called "Antitoxin" in hospitals and private practice. It has been clearly shown to be of great use in protecting from diphtheria, and in curing the disease. The question of the free supply of diphtheria antitoxin to those of the ratepayers not in a position to pay for it was discussed in 1900 and in 1901. At Crewe, during 1900, a good example was set to other districts. A supply of diphtheria antitoxin was ordered to be kept at the isolation hospital, so that Medical Practitioners could obtain what they wanted at cost price, and have the loan of a special injection syringe. In 1901, the Corporation of Crewe took a further step (as has been already recorded) and provided antitoxin free of cost for the treatment of cases of diphtheria. The majority of Medical Practitioners in the Borough have availed themselves of the advantage offered. During 1901 the Corporation of Hyde ordered antitoxin to be kept at the hospital and sold at cost price to those requiring it. In Nantwich Rural District, when antitoxin was wanted by the Medical Officer of Health, a lady kindly supplied it.

Memorandum on Diphtheria, its Diagnosis, Prevention, and Cure.—Owing to the exceptional prevalence of diphtheria in several districts, it was deemed advisable to issue an Official Memorandum upon the subject of the disease, its diagnosis, prevention, and cure, in November, 1902. This memorandum was reprinted in the Annual Report for 1902. In it the duty of the Sanitary Authority, with reference to diphtheria, is summarized as follows :—

1. To inquire into the causes of single cases of diphtheria and outbreaks.
2. To insure the destruction of infected milk, and, if possible, of infected animals.
3. To disinfect infected premises, bedding, clothing, &c.
4. To prevent, as far as practicable, personal infection, especially during epidemic periods. This will often include making certain restrictions as to school attendance, or recommending school closure.

5. To make hospital provision for the isolation and treatment of such cases of diphtheria as may arise.
6. To keep a supply of diphtheria antitoxin at some convenient place (e.g., the Local Isolation Hospital), to be used by Medical Practitioners for the treatment of cases of diphtheria, and the protection of those exposed to infection ; and also to keep at the same place a syringe or syringes to be used for injecting the antitoxin. The antitoxin might be provided free for those who cannot afford to pay for it, and at cost price for others. A syringe to inject the antitoxin might also be lent free.
7. To make arrangements with the Pathological Department of the University at Manchester or Liverpool, or other suitable Institution, to enable local Medical Practitioners to have material from doubtful cases examined bacteriologically and reported on.
8. To prevent ground air from gaining admission to houses.
9. To render more wholesome, by any means available, the soil in districts in which diphtheria has become endemic.

Whooping-cough is not notified, and the extent of its prevalence has to be gauged by the death record. The number of deaths during 1907 in the Municipal Boroughs was 60, in the other Urban Districts 80, and in the Rural Districts 26 ; in all 166. The number of deaths from whooping-cough in 1906 was 93. The number of deaths from whooping-cough in 1905 was 101. The number of deaths from whooping-cough in 1904 was 212. The number of deaths from this disease in 1903 was 196 ; the number in 1902 was 114 ; the number in 1901 was 145 ; the number in 1900 was 214 ; the number in 1899 was 135 ; the number in 1898 was 111 ; the number in 1897 was 287 ; the number in 1896 was 176 ; the number in 1895 was 110 ; the number in 1894 was 217 ; the number in 1893 was 120 ; and the number in 1892 was 230. Thus the number of deaths from whooping cough for 1905 and 1906 was exceptionally small—the annual average in the thirteen years 1892–1904 being 174.

Whooping-cough does not seem to have been specially fatal in any District in 1907, except in Northwich, where there were 17 deaths therefrom. The idea that children ought to be taken out during an attack of whooping-cough is still extensively prevalent

in households where one would expect more knowledge and more common sense.

In a few Districts the Elementary Schools, or the Infant Departments of these schools, were closed on account of this disease being prevalent among the scholars. Infants' Departments having to be closed wherever whooping-cough is epidemic seems to point to the unwisdom of sending children to school between the age of 3 and 5 years.

Parents, and those in charge of very young children, should do their best to avoid any risk of infection, as, if a child can be shielded from the disease during the first five years of life, its risk of subsequently taking the disease is much lessened, and, if it should acquire it, the chances of recovery are much increased. This advice has been often repeated—the difficulty is to induce people to follow it.

As showing how fatal this disease is in early life, it is interesting to note that 91 of the deaths were of infants under a year old, 68 were a year old and under 5 years, 6 were children 5 years old and under 15 years, and only 1 was 15 years old and upwards.

Infectiousness in whooping-cough, as in measles, begins with the earliest symptoms. In the early non-spasmodic stage the child is most likely to be a source of danger to others. When the whoop appears (and the disease is commonly not recognised till then) the power of communicating the disease begins to decline. For this reason, and for others, compulsory notification of whooping-cough is not likely to prove of much assistance in checking the spread of the disease. The disease has been notifiable in Ashton-upon-Mersey since November 6th, 1897.

There are indeed few maladies so difficult to deal with as whooping-cough, from a public health point of view. Its onset is insidious, and the catarrhal stage (during which the symptoms are not characteristic) commonly lasts nearly a week. As a matter of fact, little seems to be done throughout the County to stop the spread of the disease. Still there is no doubt about the infectiousness of whooping-cough, or the need of keeping infected children from others, and in particular from school. The mortality from whooping-cough would probably be much reduced if those in charge of children regarded the disease more seriously, and had the patients properly nursed and kept warm. And this mortality needs reducing, for whooping-cough

is the most fatal of all infectious diseases of children under 5 years of age.

Fevers.—In the official form furnished to Medical Officers of Health by the Local Government Board, and used for making mortality returns, “Fever” is divided into three, viz. :—“Typhus,” “Enteric,” and “other continued.” “Puerperal fever,” like scarlet fever, is classed elsewhere in the form. During 1907, there was 1 death from typhus fever, there were 39 deaths from enteric (or typhoid) fever, and there was no death from other continued fever.

Typhus Fever.—The only case notified occurred in the Urban District of Hoylake and West Kirby. The subject was a gentleman, 53 years of age, who died from the disease. He was engaged in business in Liverpool, and it was thought that in course of his employment there, he may have come in contact with infection. He was only temporarily residing in Hoylake for the sake of golf. He was isolated in a Nursing Home, and every precaution to prevent the spread of infection was taken.

Enteric Fever.—The disease (which is also called typhoid fever) was the subject of 217 notifications in 1907. There were no cases notified as other continued fever. Of the 217 cases notified 77 were removed to hospital—that is 35.5 per cent.

In the Municipal Boroughs 62 cases were notified, and 13 removed—just under 21 per cent.

In the other Urban Districts 124 cases were notified, and 49 removed—39.5 per cent.

In the Rural Districts 31 cases were notified, and 15 were removed—48.4 per cent.

In the Borough of Crewe there was remarkably little fever during 1907, only five cases being notified. However of these three proved fatal.

In the Borough of Hyde there were 24 cases notified, and three deaths, in the Borough of Macclesfield 11 cases were notified and three deaths, and in the Borough of Stalybridge nine cases and three deaths. Dukinfield was more fortunate than usual, only ten cases being notified, of which nine recovered. In the Borough of Congleton three cases were notified and all recovered.

In the other Urban Districts, enteric fever appears to have been most prevalent in Runcorn; 46 cases were notified, twelve of which proved fatal. In Wallasey Urban District 31 cases were notified, three being fatal. In Hoylake and West Kirby Urban District 10 cases were notified, but only one was fatal. There was no great prevalence of typhoid fever in any of the Rural Districts. In Chester Rural District 7 cases, in Runcorn Rural District 6 cases, in Wirral 5 cases, and in Bucklow Rural 5 cases. However, the only death in these four Districts was one in Wirral. In Northwich Rural District there were 3 cases and 2 deaths.

The number of deaths from enteric fever in 1907 was 13 in the Municipal Boroughs, 22 in the other Urban Districts, and 4 in the Rural Districts—39 in all. Thus just under 18 per cent. of the known cases of this disease were fatal in 1907.

In 1906 there were 58 deaths—19.1 per cent. of the known cases. In 1905 there were 60 deaths—16.8 per cent. of the known cases. In 1904 there were 65 deaths—19.0 per cent. of the known cases. In 1903 there were 40 deaths—14.1 per cent. of the known cases. In 1902 there were 66 deaths—16.6 per cent. of the known cases. In 1901 there were 97 deaths—13.3 per cent. of the known cases. In 1900 there were 107 deaths—16.5 per cent. of the known cases. In 1899 there were 101 deaths—14.1 per cent. of the known cases. In 1898 there were 106 deaths—15.18 per cent. of the known cases. In 1897 there were 68 deaths—14.0 per cent. of the known cases. In 1896 there were 86 deaths—16.4 per cent. of the known cases. In 1895 there were 76 deaths—17.0 per cent. of the known cases. In 1894 there were 81 deaths—18.0 per cent. of the known cases. In 1893 there were 118 deaths—15.0 per cent. of the known cases.

Of the 39 persons who died from enteric fever in 1907, 1 was an infant who had not completed its first year, 1 was between 1 year and 5 years old, 7 were between 5 and 15 years old, 10 were between 15 and 25 years old, 19 were between 25 and 65 years old, and 1 was over 65 years of age.

The Diagnosis of Typhoid or Enteric Fever.—Owing to the length of time during which typhoid fever is latent, it ordinarily happens that infective excreta are emptied into midden-privies before it is possible to recognize the disease with certainty. Hence, the great value of a test which will enable a Medical Practitioner to recognise this disease at an early stage. Such a test was discovered by Dr. Fernand Widal, of Paris, in 1896. It is

based on the action which the blood of patients affected with typhoid fever has on cultures of the typhoid bacillus.*

This test is now available for any district in Cheshire. All that the District Council has to do is to make arrangements with the Pathological Department of the Victoria University of Manchester, or the University of Liverpool and then material can be sent to the College from doubtful cases of typhoid fever, diphtheria, or phthisis, etc., by Medical Practitioners in the said District, and the material will be promptly subjected to bacteriological tests, and reported on. Such arrangements have been made by the Corporations of Crewe, Congleton, Dukinfield, and Hyde, and by twenty other authorities in the County, and it would doubtless be for the advantages of all Corporations and District Councils if they took similar action.

From many Districts evidence has been received of the usefulness of this test.

For the Borough of Macclesfield tests are applied by the Jenner Institute. Medical Practitioners are permitted to have the test applied in doubtful cases, the Authority defraying the cost.

Diarrhœa is the last of the seven principal zymotic diseases, according to the returns of the Registrar-General. What is, and what is not to be regarded as diarrhœa is a question of importance from a statistical point of view, as increasing and lowering the zymotic death-rate. It is therefore well that the official forms [issued by the Local Government Board to be used for 1900 and since] have a note on this subject. The note is as follows :—

Under the heading of “Diarrhœa” are to be included deaths certified as from diarrhœa, alone or in combination

* The quick method of applying Dr. Widal's test is thus described by Professor Delépine. Take a drop of blood or of the serum to be examined. Dilute with 9 parts of neutral bouillon. Mix on a slide or cover-glass a drop of this one tenth dilution of the serum with one or more drops of a young (24 hours old) culture of the typhoid bacillus. Cover the mixed drops with a cover-glass, or, if the mixture has been made on a cover-glass, place this cover (film downwards) on a slide. Examine the preparation at once with a microscope. The most convenient powers to use are such as will magnify from 200 to 300 times in diameter ; but the reaction can be seen with a very low power, and, when it is well marked, even with the naked eye. If the serum, or blood, be of a typhoid patient in the 2nd, 3rd, 4th or 5th week of the illness, the reaction will in most cases appear almost instantaneously. Within one or two minutes the bacilli, instead of moving rapidly, as when they are in presence of non-typhoid blood, become sluggish and, in many cases, motionless. They run together as if moved by some force of attraction, and form clumps of various sizes. This *agglomeration phenomenon* may sometimes be so

with some other cause of ill-defined nature ; and also deaths certified as from

Epidemic enteritis ;

Zymotic enteritis ;

Epidemic diarrhœa ; Summer diarrhœa ;

Dysentery and dysenteric diarrhœa ;

Choleraic diarrhœa, cholera, cholera nostras (in the absence of Asiatic cholera).

Under the heading of "Enteritis" are to be included those certified as from Gastro enteritis, Muco enteritis and Gastric catarrh, unless from information obtained by enquiry from the certifying practitioner or otherwise the Medical Officer of Health should have reason for including such deaths, especially those of infants, under the specific term "Diarrhœa."

Deaths from diarrhœa, secondary to some other well-defined disease, should be included under the latter.

Attention is also especially invited to the recent decision of the Royal College of Physicians, advocating the use of authorised names for diarrhœa and diarrhœal diseases.

The Royal College of Physicians of London, in response to an earnest appeal for its authoritative guidance concerning the certificates of death from diarrhœa, has now expressed an opinion which, if loyally adopted by medical men throughout the country, in granting certificates of death, will greatly improve the national records of mortality from this disease. The following is an extract from the proceedings of the College, dated January 25th, 1900 :—

"The Royal College of Physicians is convinced after
"careful inquiry: (a) that various unauthorised and mis-
"leading terms such as 'gastro-enteritis,' 'muco-enteritis,'

complete that after a space of time, varying between five minutes and twenty minutes, hardly any bacilli remain free between the clumps. In a few instances the reaction is not distinct before the end of the first or second hour ; but these cases are exceptional. In the case of healthy or diseased persons not affected with typhoid fever, no such reaction is observed. It is true that when too large a proportion of blood is used, even the serum of healthy persons may give rise to agglomeration of the bacilli. But the phenomenon in such cases is far less clear and well-defined than in cases of typhoid fever, and generally comes on very slowly. In typhoid fever the reaction has been observed by Widal on the 4th and 5th days ; and some American observers have reported a reaction at an earlier date still. It must be remembered, however, that during the first week the reaction is often slow and not quite clear, and that to establish a clear diagnosis re-examination is very often necessary. Widal and Sicard found that blister fluid had the same properties as the blood serum. Milk and tears of typhoid patients have also been found to behave in the same way, though they are less active than the blood serum.

“ ‘gastric-catarrh,’ etc., are now commonly employed to
 “ designate the disease officially known as ‘epidemic
 “ diarrhœa,’ whereby its specific character is in danger of
 “ being ignored, and great confusion ensues ; (b) that the
 “ present confusion of terms renders it impossible to deter-
 “ mine accurately either the prevalence of the disease in
 “ special places and at special times, the extent to which it
 “ influences the public health, or the effects produced by
 “ sanitary measures ; (c) that there is a widespread objection
 “ on the part of medical practitioners to the employment of
 “ the term ‘diarrhœa’ in certifying the cause of death,
 “ probably because that term is generally held by the public
 “ to imply a mild disease, insufficient by itself to cause death,

“ The College, therefore, has sought to discover as an
 “ alternative for the authorised term (epidemic diarrhœa)
 “ some other name, which whilst equally accurate, should
 “ convey to the public the idea of a more serious affection.
 “ But the College regards it as essential that the idea of
 “ specificity intended to be conveyed by the term ‘epidemic’
 “ should be retained.

“ As the result of much deliberation, the College has
 “ agreed to authorise the use of the term ‘epidemic enteritis’
 “ (or if “ preferred by the practitioner, ‘zymotic enteritis’), as a
 “ synonym for epidemic diarrhœa. The College has further
 “ decided to urge upon practitioners the entire disuse,
 “ in medical certificates of death, of such terms as
 “ ‘gastro enteritis,’ ‘muco-enteritis,’ or ‘gastric catarrh,’
 “ as synonyms of epidemic diarrhœa.”

Diarrhœa is not notified, and the extent of its prevalence year by year is measured by its death record. In 1907 the number of deaths ascribed to diarrhœa was 37 in the Municipal Boroughs, 65 in the other Urban Districts, and 21 in the Rural Districts. Out of the 123 whose deaths were registered as due to diarrhœa in 1907, 100 were infants under a year old, 14 were children a year old and under 5 years, 2 were adults 25 years old and under 65 years, while 7 were old people 65 years of age and upwards.

The number of deaths from diarrhœa in 1906 was 416, the number in 1905 was 222, the number in 1904 was 381, the number in 1903 was 194, the number in 1902 was 126, the number in 1901 was 445, the number in 1900 was 326, the number in 1899 was 506, the number in 1898 was 572, the number in 1897 was 460, the number in 1896 was 239, the number in 1895 was 453, the number in 1894 was 168, the number in 1893 was 652, the number in 1892 was 205. The

diarrhœa mortality varies much from year to year, and latterly has been high each alternate year; however, the records for 1897-99 afford an instance of three consecutive years in which a high death-rate has been maintained. In 1903 the Cheshire mortality from diarrhœa was very much below the corresponding mortality in 1892-1902, which averaged 377.5 deaths. In 1904 the Cheshire mortality from diarrhœa was a little above this average, but in 1905 this mortality was nearly as low as in 1903. In 1906 the mortality from diarrhœa was quite high again, and in 1907 it was lower than on any previous year on record.

This disease prevails to some extent every autumn, and is associated with high temperature and putrefactive changes in food. As indicating the connection of this disease with the food of those who suffer, it has often been proved by statistics to be specially a disease of hand-fed infants. As illustrating the truth of Dr. Ballard's conclusions, that as soon as the temperature reaches 56 degrees Fahr. at a depth of 4ft., the disease may be expected to appear more or less extensively, the experience at Crewe has been often referred to, in previous Annual Reports. Weather conditions seem to have had much to do with the low diarrhœa death-rate in 1903 and 1905, and also with the somewhat high death-rate in 1904. In districts where investigations have been made, it has been found that there is a preponderance of deaths from diarrhœa among artificially fed infants, and there can be no doubt that bottle-fed infants are more liable to suffer from this disease than infants brought up wholly on the breast. The bottle most in use among the poor is the one having a long rubber tube between the bottle and the teat. It is difficult to keep such a tube clean, and as a rule it contains traces of milk which is sour or decomposing. The milk is not always clean and fresh when bought, and if it be both, the dirty condition of many of the houses soon contaminates it. Condensed milks seem to be very much used, especially among the poorer people. These, no doubt, are excellent and useful preparations, but not for infants. They are deficient in fat and contain an excess of cane sugar, and their use for feeding infants is liable to produce rickets, and should therefore be discouraged. In some cases the method of preparing the milk for use is very defective, exposing the infants fed thereon to gradual starvation.

At Crewe inquiries are made into the circumstances attending each death, as is done at Dukinfield and Hyde.

Enteritis.—After what has just been stated as to the use of this term, it seems probable that it will in the future be used less and less, and much consequent error will cease.

During 1907, enteritis was registered as the cause of 102 deaths in Cheshire, 40 being in the Municipal Boroughs, 42 in the other Urban Districts, and 20 in the Rural Districts. Of those who died 51 were infants under a year old, 22 were a year old and under 5 years, 5 were between 5 years and 15 years, 2 were between 15 and 25 years, 15 were between 25 years and 65 years, and 7 were 65 years old and upwards.

Epidemic Influenza.—The official forms on which, since 1900, mortality returns from Boroughs and Districts have been made, include “epidemic influenza” among the diseases for which a separate return is required. Prior to 1900, returns as to the number of deaths from influenza were made in this County by request, but such voluntary returns are necessarily imperfect. In 1907 the number of deaths reported as due to epidemic influenza was 86, of which 20 were in the Municipal Boroughs, 36 were in the other Urban Districts and 30 were in the Rural Districts. In 1906 the number of deaths reported was 82 in 1905, the number of deaths was 96, in 1904 the number was 73, in 1903 the number of deaths was 90, in 1902 the number was 74, in 1901 it was 83, in 1900 it was 286, in 1899 it was 251, in 1898 it was 146, in 1897 it was 104, in 1896 it was 39, and in 1895 it was 157. The death-rate per 1000 living was 0.13 in Cheshire in 1907, in 1906 it was also 0.13 per 1000 living, in 1905 it was 0.15, and in 1904 it was 0.14. Of the 86 who died from this disease, 5 were under 5 years of age, 9 were between 15 and 25 years of age, 37 were between 25 and 65 years of age, and 35 were upwards of 65 years of age.

There is no doubt about the infectiousness of influenza, and this infectiousness appears to continue from the onset of the disease until the patient is sufficiently convalescent to resume his ordinary occupation, but there is very little that the Local Authority can do to limit the spread of the disease when it has once appeared in a district. Compulsory notification, even if practicable, would be of very little use, and certainly hospital provision could not be made for cases. Still, the public should be informed that the infective particles are present largely in what is discharged from the lungs and nasal passages, and that these should not be allowed to dry and scatter infection, but be at once burnt, or received into water, and emptied down a drain leading to a sewer. The public should be informed also that anyone having influenza should keep to himself as much as possible, especially avoiding assemblages of people. Of course, after recovery of the patient, infected rooms and clothing should be disinfected.

Puerperal Fever is a term which, according to the Registrar-General, should no longer be used. However, Medical

Practitioners, in writing certificates of the cause of death, continue to employ it. A few years ago puerperal fever was regarded as an acute specific fever occurring in lying-in women only, but it is now commonly held to be a puerperal septic disease caused by infectious germs directly conveyed to the patient by defiled hands, sponges, etc., or otherwise.

During 1907 there were 42 cases notified, and 20 deaths in Cheshire. In the Municipal Boroughs 7 cases were notified, and 3 deaths occurred. In the other Urban Districts 27 cases were notified, and 13 deaths occurred; and in the Rural Districts 8 cases were notified, and 4 deaths occurred.

In 1906 there were 42 cases notified and 21 deaths, in 1905 there were 69 cases notified and 96 deaths, and in 1904 there were 61 cases notified and 31 deaths. The record of 1904 and 1906 seems to indicate that many cases of this disease are not reported. The record in 1905 proves that a very large proportion of cases escape notification. The truth is that puerperal fever is very irregularly notified, and the cause of this is not far to seek. It is of more frequent occurrence among those who, from poverty or other causes, are without skilled attendance and nursing. Thus, numbers of cases are never seen by a Medical Practitioner, and in many instances the first intimation the Medical Officer of Health has of a case is after the death of a patient. Rarely indeed is it practicable to send a case of puerperal fever to hospital (5 cases were sent in 1905, 4 in 1906, and 1 case in 1907) but possibly something more might be done in impressing upon the poor the necessity of infinite cleanliness in the treatment and environment of lying in women. In the Chester Rural District and other districts belonging to the West Cheshire combination, the bedding used by puerperal fever patients is destroyed, and compensation given. It would be wise to do this in all cases notified in a District where no steam disinfectors have been provided. Every midwife or nurse who has been in attendance on a puerperal fever patient should be cautioned not to attend another case until she has had a bath, washed her head, and had her clothes properly disinfected. Even after taking such precautions the midwife or nurse would do well to take a few days' holiday before resuming work.

The Medical Officers of Health for the Boroughs of Crewe, Hyde, and Macclesfield, arrange for the disinfection of women who have lately attended cases of puerperal fever at the isolation hospitals.

The Midwives Act, 1902.—At a Meeting of the Public Health Committee, on October 24th, 1902, the Clerk called the

attention of the Committee to this Act, and the powers conferred upon County Councils thereunder, and it was

RESOLVED—That the Clerk furnish each Member of Committee with a copy of such Act, and that the County Medical Officer of Health report to the next Meeting of the Committee the action he recommends the County Council should take thereon.

Accordingly, at the next Meeting of the Committee, on January 23rd, 1903, the County Medical Officer submitted a Report as instructed. This Report was printed in full in the County Medical Officer's Annual Report for the year 1902.

After this Report was presented, it was referred to a Committee which the Council were recommended to appoint, delegating to them the powers of the Council to take such action as they may think fit for putting the Act into operation on April 1st, 1903, and to report thereon to the Quarterly Meeting of the Council in May.

At the first Meeting of the Midwives Act, 1902, Committee, on May 1st, 1903, the Clerk laid before the Committee a Memorandum from the Local Government Board on the Midwives Act, 1902, together with a letter to the County Medical Officer relating to the same. It was thereupon

RESOLVED—That the consideration of the action to be taken by the Council for making known the provisions of the Act, and putting the same into operation, be adjourned until the Regulations of the Central Midwives' Board have been passed and issued.

At the next Meeting of the Midwives Act, 1902, Committee, on October 16th, 1903, the Clerk laid before the Committee the Rules framed by the Central Midwives' Board and forms for giving effect thereto, and also the following suggestions to County and County Borough Councils, issued by the Central Midwives' Board in reference to the duties assigned to them under the Midwives Act, 1902.

SUGGESTIONS TO COUNTY AND COUNTY BOROUGH COUNCILS IN REFERENCE TO THE DUTIES ASSIGNED TO THEM UNDER THE MIDWIVES ACT, 1902.

1. The Central Midwives' Board suggests to the County Councils the advisability of retaining the administrative duties assigned to them, under the Midwives Act,

1902, as far as possible in the hands of a Committee directly appointed by themselves. This will not only secure for the County Council more adequate control over the expenditure, but will tend also to prevent the possibility of local rivalries and jealousies interfering with the carrying out of the provisions of the Act.

2. The Board suggests further that the Health Committee of the County Council would form a suitable Committee to act as the Local supervising Authority, with power to add to its number from outside the Council or otherwise.

In Counties where there is no County Medical Officer it is suggested that a Special Medical Officer be appointed to advise the Committee.

3. It is further suggested that supervision should be regarded as at least in part a medical duty, and that the Medical Officer of Health, or the Medical Adviser specially appointed, should be empowered to act as the Executive Officer of the Committee.

4. The Board suggests to County and County Borough Councils that, this being a matter almost solely affecting women, the Local Supervising Authority should, as sanctioned by the Act, include in any Committee it may appoint one or more women conversant with the needs of the poor in the District.

The Committee considered the Rules and suggestions of the Central Midwives' Board, and the following resolutions were passed :—

RESOLVED—That the Clerk to the Council point out to the Central Midwives' Board that there appears to this Committee to be a defect in the Rules, inasmuch as no provision is made therein for payment of the Medical Practitioner called in by the Midwife, and enquire how the difficulty as to payment can be met where the Medical Practitioner declines to attend unless payment of his fee is guaranteed, and further enquire whether the County Council can pay such fee, not exceeding the scale allowed by the Poor Law Authority.

RESOLVED—That the Clerk ascertain from the Central Midwives' Board whether the item "Date of Engagement to attend" in paragraph 19 of the Rules means the date the Midwife is engaged, or the expected date

of confinement, and also with respect to paragraph 20 enquire who the Board suggest should make the inspection of the articles mentioned therein.

The County Medical Officer of Health reported that he had obtained Returns of the names and addresses of the Midwives practising in all but two of the Boroughs and Districts in the Administrative County. According to these Returns the number of Midwives practising in the 52 Boroughs and Districts was 506. When the two Returns which have still to come in were received, this number would probably be increased to 530.

The Committee then considered the desirability of recommending the County Council to exercise the powers conferred upon them by Section 9 of the Act, by delegating, with or without any restrictions or conditions as they may think fit, any power or duties conferred or imposed upon them, to any District Council within the County ; and also communications on the subject from certain of the Boroughs in the County, and it was thereupon

RESOLVED—That the Committee are of opinion that the Act can be most efficiently administered by the County Council delegating its powers on certain terms and conditions to the Municipal Boroughs and Urban and Rural District Councils in the County, and that the County Medical Officer of Health report to a future Meeting of the Committee the terms and conditions upon which he recommends such delegation should be made to those District Councils willing to accept the same.

At a Meeting of the Midwives Act, 1902, Committee on January 22nd, 1904, the County Medical Officer of Health reported upon the terms and conditions on which he recommended the powers and duties of the Council, under the Act, to be delegated to the Borough and District Councils willing to accept the same. This Report was to the following effect :—

The County Medical Officer of Health considered the matter referred to him in the last quoted resolution, without being able to devise a satisfactory system of delegation, and then, having occasion to be in London on November 20th, he availed himself of the opportunity of calling on the Secretary of the Central Midwives' Board, at his office, 6, Suffolk Street, Pall Mall. The Secretary was briefly informed that the Cheshire County Council had formed a Midwives Act Committee, and that the Committee were of opinion that the Act can be most efficiently administered by the County Council delegating its powers, on certain terms and conditions, to the Municipal

Boroughs and Urban and Rural District Councils in the County, and that the County Medical Officer had been instructed to report on the terms and conditions upon which he would recommend such delegation. Finally, the Secretary was asked if he could give any indications as to what terms and conditions would be approved by his Board. He said that powers which were delegated to Town Councils and District Councils would be theirs until they were withdrawn, and if powers were delegated to the Borough and District Councils in a County, they would be the Local Supervising Authorities over Midwives within their respective areas, they would investigate charges of mal-practice, negligence or misconduct, suspend any Midwife from practice if such suspension appears necessary, report at once to the Central Midwives' Board the name of any Midwife practising in their area convicted of an offence, keep the local register of Midwives, supply information therefrom to the Central Midwives' Board, report the death of any Midwife, or change of name or address, and give due notice of the effect of the Act as far as practicable to persons using the title of Midwife, etc. As Local Supervising Authorities, the Town Councils and District Councils would be in direct communication with the Central Midwives' Board, and there would be ordinarily little left for the County Council to do, except, perhaps, to withdraw powers misused or neglected. The Secretary added that the Central Midwives' Board were in favour of County Councils retaining the administrative duties assigned to them in the Midwives' Act, as far as possible in the hands of a Committee directly appointed by themselves; he asked what objection there was to this course. It was explained to the Secretary that the County Council could not very readily make arrangements to secure a proper inspection of every Midwife's case book, bag of appliances, etc., and when thought necessary, an inspection of her place of residence, and an investigation of her mode of practice. In reply, the Secretary said it had not been suggested by the Central Midwives' Board that these inspections and investigations should be made by the County Medical Officer of Health, but by the District Medical Officers of Health. The County Council could make suitable terms with such Medical Officers of Health for the carrying out of the required inspections and investigations, who, in this respect would be, so to speak, assistants to the County Medical Officer.

TERMS AND CONDITIONS UPON WHICH POWERS AND DUTIES MAY BE DELEGATED.

The County Medical Officer of Health, as instructed, submits the following as the terms and conditions upon which

he recommends that the duties assigned under the Midwives Act may be delegated to Town Councils and District Councils.

1. That the Town Council or District Council is willing to accept the powers and duties conferred or imposed under the Midwives Act, which it is proposed to delegate.

2. That the Town Council or District Council undertakes to make use of the powers and discharge the duties delegated in the manner set forth in the Midwives Act, and Rules made thereunder.

3. That during the month of January of each year, the Town Council or District Council supplies to the Clerk (or Medical Officer of Health) to the County Council the following information in respect of the year immediately preceding, viz. :—

- (a) The name and address of every practising Midwife residing in the Borough or District, who has been admitted to the roll of Midwives under Section 6 (1) and (2) of the Midwives Act.
- (b) The name and address of every Midwife practising in the Borough or District, but residing elsewhere, who has been admitted to the roll of Midwives under Section 6 (1) and (2) of the Midwives Act.
- (c) The number of charges of malpractice, negligence, or misconduct on the part of any Midwife practising within the Borough or District, investigated.
- (d) The number of such charges in which a *prima facie* case was established.
- (e) The number of cases in which a Midwife has been suspended from practice, in order to prevent the spread of infection.
- (f) The number of cases in which a Midwife practising in a Borough or District has been convicted of an offence, the nature of the offences committed, and the number of Midwives convicted of each offence.
- (g) The name and address of any practising Midwife who died during the year in the Borough or District; and any change in the name or address of any Midwife residing in the Borough or District which has taken place during the year.

- (h) The number of inspections made of Midwives' case books, bag of appliances, &c., the number of inspections made of Midwives' places of residence, and the number of investigations made as to mode of practice.
- (i) The number of deaths of mothers and of infants occurring in the practice of Midwives in the Borough or District, and the number of these occurring before the attendance of a registered medical practitioner.
- (j) The number of still births occurring in the practice of Midwives in the Borough or District, and the number of these occurring before the attendance of a registered medical practitioner.
- (k) The number of cases of puerperal fever occurring in the practice of Midwives in the Borough or District, and the number of these occurring before the attendance of a registered medical practitioner.
- (l) The number of cases attended solely by Midwives in the Borough or District.
- (m) A brief general report on the working of the Midwives Act in the Borough or District.

4. That the Town Council or District Council agree that the expenses they will be entitled to charge for putting the Midwives Act into operation shall not exceed a maximum to be determined.

AN ALTERNATIVE SUGGESTION.

Should the Midwives Act Committee be disposed to reconsider the question of the expediency of delegation, the County Medical Officer suggests that it would probably be possible for the County Council to retain the administrative duties in the hands of a Committee directly appointed by themselves, and to make arrangements with the Borough or District Medical Officers of Health to inspect the Midwives' case books, bags of appliances, places of residence, and mode of practice, by paying each of the said Medical Officers of Health an annual sum of (say) 21/- for every practising Midwife resident in his Borough or District, on the Medical Officer of Health agreeing to furnish an Annual Report to the County Council on the lines indicated above.

The Committee considered this Report, and the following Resolution was passed :—

RESOLVED —That the Councils of the several Municipal Boroughs and Urban and Rural Districts in the Administrative County be invited to appoint the Chairman or some other member of their respective Health or Sanitary Committees and their respective Medical Officers of Health to attend a Conference with the members of this Committee to generally discuss the administration of the Act within the County, and in particular the terms upon which they would be prepared to recommend their respective Authorities to assist in carrying out the Act within the Areas under their respective jurisdictions.

Representatives of the Councils of the Municipal Boroughs and Urban and Rural Districts were accordingly appointed, and these were received in Conference by the Committee on April 21st, 1904. After the County Medical Officer of Health had explained the provisions of the Act, and the Clerk to the Council had given information as to the steps which the County Council had taken in connection therewith, the Committee proceeded to discuss with the Representatives present the best means to be adopted in working the Act, *i.e.*, whether by the County Council delegating its powers to the Borough and District Councils, or by the County Council administering the Act with the co-operation of the Borough and District Councils, and with the assistance of their Medical Officers of Health, and there being a general consensus of opinion that the latter course was the preferable one to adopt, the following resolution was passed (*nem con*) by the Representatives present :—

“That the Representatives of the Municipal Urban
“and Rural District Councils, present at this Conference,
“are prepared to recommend their respective Councils to
“assist the County Council in carrying out the Midwives
“Act, 1902, within their respective jurisdictions, by per-
“mitting their respective Medical Officers of Health to
“perform the following duties, *viz.* :—

- “ (a) Inspection of Midwives’ case books.
- “ (b) Inspection of bags of appliances.
- “ (c) Inspection of places of residence.
- “ (d) Inspection of mode of practice.
- “ (e) Such other analagous duties as the County
Medical Officer of Health may prescribe,
“and on such terms as may be agreed between the County
“Council and each District Medical Officer of Health.”

On the same day (April 21st, 1904) the Midwives Act, 1902, Committee

RESOLVED—That the County Medical Officer of Health consider and report to a Meeting of this Committee to be held on the 29th inst., the remuneration which should, in his opinion, be paid to the District Medical Officers for carrying out the duties referred to in the foregoing resolution, and to what extent such duties should be performed in the case of those Midwives who practice in, but are not resident within, the Administrative County.

At a Meeting of the Midwives Act, 1902, Committee, on April 29th, 1904, the County Medical Officer of Health reported as to the remuneration which should, in his opinion, be paid to the District Medical Officers of Health for carrying out the duties enumerated in the resolution passed at the Conference, and as to others matters. This report was to the following effect :—

As to the amount of remuneration which, in the opinion of the County Medical Officer, it would be proper for the County Council to pay Borough and District Medical Officers of Health for services it is intended that they should perform in assisting the County Council to carry out the Midwives Act, 1902, within their respective Areas.

The proper amount of remuneration to be paid to each Medical Officer of Health may be tentatively fixed at the annual sum of one guinea and a half, in respect of each woman residing in the Borough or District of the Medical Officer of Health, whose name is on the official role of Midwives on 31st day of January in each year.

Provided that, as there may be some District Medical Officers of Health in whose District or Districts only one Midwife resides, or in which there is no Resident Midwife, it seems proper that the minimum annual sum to be paid to each Medical Officer of Health in the Administrative County should be in no case less than five guineas

The County Medical Officer of Health recommends that each Borough or District Medical Officer of Health be requested to send in his claim for fees during January in each year, together with his Report relating to the provisions of the Midwives Act, 1902, and his action thereunder, on the lines laid down in the

County Medical Officer's Second Report on the Midwives Act, and the action he recommends the County Council to take thereon. On receipt of the Report the account would be examined and certified.

As the duties to be undertaken by Borough and District Medical Officers of Health in carrying out the provisions of the Midwives Act will, in many respects, be similar to their other duties as Medical Officers of Health, it seems proper that the above fees should ordinarily include office expenses and travelling, but if (especially in Rural Districts) journeys have to be made in preliminary investigations as to malpractice, negligence, or misconduct of a Midwife, &c., it seems fair that the expense of such journeys should be charged to the County Council.

As to how it is proposed to deal with Midwives practising but not residing in the Administrative County.

As the provisions of the Midwives Act are being carried out, or will shortly be carried out, in all Boroughs and Districts bordering on, as well as within the Administrative County, the method of dealing with Midwives practising but not residing in the County will presumably be by means of inter-communication between Medical Officers of Health. For example—a Medical Officer of Health within this County has a case of puerperal fever in his District reported to him, the patient having been attended in her confinement by a Midwife residing in a District outside the County. He at once furnishes particulars to the Medical Officer of Health for the District in which the Midwife resides, and all necessary action to prevent the Midwife spreading infection will be promptly taken by the Medical Officer of Health for that District in which the Midwife resides.

It might be urged that a Medical Officer of Health was at a disadvantage because he was not in a position to inspect the case book, bag of appliances, and place of residence of a Midwife who occasionally practised in his District. However, the case book, bag of appliances, and place of residence would not escape inspection ; it would be all properly done in the District in which the Midwife resided. Inspection would be not less thorough and complete because done by the Medical Officer of Health for the Borough of Stockport instead of the Medical Officer of Health for Bredbury. Action taken after the occurrence of puerperal fever would not be less efficient because taken by the Medical Officer of Health for Birkenhead instead of the Medical Officer of Health for Higher Bebington.

As to the duties the Borough and District Medical Officers of Health within the Administrative County should be asked to perform, as regards Midwives residing within their respective Areas, and as regards the practice of Midwives, when within their respective Areas, who reside elsewhere.

These may be prescribed as follows :—

1.—To exercise general supervision over all Midwives residing within their area, and over the practice of Midwives, when within their area, who reside elsewhere.

2.—To make a preliminary investigation as regards charges of malpractice, negligence or misconduct, on the part of any Midwife residing or practising within their area, and to report the result of such preliminary investigation to the County Medical Officer.

3.—To suspend any Midwife from practice, in accordance with the rules under the Midwives Act, if such suspension appears necessary, in order to prevent the spread of infection.

4.—To report at once to the County Medical Officer the name of any Midwife practising in their area who, to their knowledge, is convicted of an offence.

5.—To report to the County Medical Officer the death of any Midwife, or any change in the name or address of any Midwife residing in their area as soon as they are aware of the same.

6.—To furnish a list (if this has not been already furnished) to the County Medical Officer of all persons at present using the title of Midwife within their area

7.—To inspect from time to time the case books, bags of appliances, and places of residence of Midwives residing within their area.

8.—To investigate the mode of practice of all Midwives practising within their area.

9.—To report forthwith to the County Medical Officer any suspension of a Midwife from practice, and the reasons for such suspension.

10.—To communicate with the County Medical Officer in any matter of doubt or difficulty arising in connection with the Midwives Act, or the Rules framed thereunder.

As to the duties which the County Council, as the Local Supervising Authority over Midwives within the County (acting through their Midwives Act, 1902, Committee), and the County Medical Officer will perform.

The County Medical Officer suggests that the County Council will do well to investigate, by means of a Member or Members of the Midwives Act Committee, appointed for the purpose, charges of malpractice, negligence, or misconduct on the part of any Midwife within the County, and should a *prima facie* case be established, report the same to the Central Midwives' Board.

The County Medical Officer will undertake to report at once to the said Board the name of any Midwife residing or practising in the County, who, to his knowledge, has been convicted of an offence.

The County Medical Officer will undertake, during the month of January in each year, to supply the Secretary of the Central Midwives' Board with the names and addresses of all Midwives who, during the preceding year, have notified their intention to practice within any Borough or District within the County, and to keep a current copy of the Roll of Midwives accessible at all reasonable times for public inspection.

The County Medical Officer will undertake to report at once to the Central Midwives' Board the death of any Midwife or any change in the name and address of any Midwife, within the County, so that the necessary alterations may be made in the Roll of Midwives.

Finally, the County Medical Officer suggests that the County Council will do well to give due notice of the effect of the Midwives Act, so far as practicable, by means of posters posted in public places, in every Borough or District within the County, and undertakes himself to give due notice of the effect of the said Act by circular letter (according to a form supplied by direction of the Central Midwives' Board) to all persons within the County, whose names and addresses are supplied to him as at present using the title of Midwife.

The Committee considered this Report, and it was—

RESOLVED—That such Report be received and the recommendations and suggestions contained therein be adopted with the exception of the following paragraph, viz.:—

The County Medical Officer suggests that the County Council will do well to investigate by means of a Member or Members of the Midwives Act Committee, appointed for the purpose, charges of malpractice, negligence, or misconduct, on the part of any Midwife within the County, and should a *prima facie* case be established, report the same to the Central Midwives' Board.

And that in lieu of such suggestion the investigation of the charges referred to be made by the County Medical Officer of Health, who shall report the result thereof to the Committee, and furnish a copy of his Report to the Midwife concerned, and at the same time intimate to her the date, and time and place of the Meeting of the Committee before which the Report will be laid, so that she may attend such Meeting if she desires to do so.

At a Meeting of the Midwives Act, 1902, Committee on July 15th, 1904, the Clerk to the Council reported that, with the exception of the Northwich Urban District Council, the whole of the District Councils in the County had passed Resolutions approving of the Resolution passed at the Conference held on the 21st April last.

The County Medical Officer stated that he had issued the following documents to all the Midwives in the County whose names had been supplied to him by the District Medical Officer of Health, and generally reported the action taken by him under the Act since the last Meeting, viz.:—

OFFICE OF COUNTY MEDICAL OFFICER OF HEALTH,
7, SHREWSBURY ROAD,
BIRKENHEAD,

July 14th, 1904.

Mrs.

MADAM,

Your name has been given to me as a reputed Midwife practising or desiring to practise within the Administrative County of Chester, and I have been instructed by the County Council to send you the enclosed notice, drawing attention to the chief provisions of the Midwives Act, 1902, which materially affects the legal position of all Midwives.

I am also sending you two forms, viz., Form VI. and Form VIII. If you desire to be certified under the Midwives Act, on the ground of holding a Certificate in Midwifery from one of the bodies specified in the Act, or a Certificate approved by the Board, will you fill in Application Form VI., and send to the Secretary of the Central Midwives' Board, 6, Suffolk Street, London, S.W.? If you desire to be certified under the Midwives Act on the ground of having been in *bona fide* practice as a Midwife, for at least one year prior to July 31st, 1902, will you fill in Application Form VIII., and send it to the Secretary of the Central Midwives' Board, 6, Suffolk Street, London, S.W.?

Should the Central Midwives' Board grant your application, and enter your name on the Midwives' Roll, you will receive a Certificate to this effect in due course. On obtaining this Certificate I have to request that you will notify me that you have received it, and furnish me with your Christian name and surname, your present address in full, and the number of your Certificate, and date thereof, in order that I may enter your name on the County Register of Midwives.

On sending either of the Application Forms to the Secretary of the Central Midwives' Board, the necessary Certificate or Certificates must be enclosed, together with a postal order for ten shillings.

On notifying to me that you have received your Certificate you are not required to enclose any Certificate, and you will have your name and address entered on the County Register of Midwives, without any fee or charge whatever.

I am, Madam,

Yours faithfully,

FRANCIS VACHER.

CHESHIRE COUNTY COUNCIL.

MIDWIVES ACT, 1902.

(2 Edw. 7, c. 17).

The Cheshire County Council desires to draw attention to the chief provisions of the Midwives Act, 1902, which materially affects the legal position of all Midwives.

1. After the 1st April, 1905, no woman may call herself a Midwife unless certified as the Act provides.

2. After the 1st April, 1910, no woman may practise (*i.e.*, habitually and for gain attend women in childbirth otherwise than under the direction of a qualified medical practitioner) unless certified as the Act provides.

3. Any woman who before the 31st March, 1905, claims to be certified under the Act may be so certified if

(a) She holds a Certificate in Midwifery from the Royal College of Physicians of Ireland, or from the Obstetrical Society of London, or the Coombe Lying-in Hospital and Guinness's Dispensary, or the Rotunda Hospital for the Relief of the Poor Lying-in Women of Dublin.

Or,

(b) She holds such other Certificate in Midwifery as the Central Midwives' Board may approve.

Or,

(c) She satisfies the Central Midwives' Board that she has been in *bonâ fide* practice as a Midwife for at least one year prior to the 31st July, 1902, and that she bears a good character.

4. A woman not included within one of these three classes will be required to pass the examination of the Central Midwives' Board before obtaining a Certificate.

5. Applications to be certified must be made to the Central Midwives' Board in accordance with the rules and regulations to be prescribed by the Board, and such fees will be payable for the examination and the Certificates as the Privy Council may sanction.

6. The names of all certified Midwives will be entered on the Midwives' Roll.

7. Every certified Midwife must before commencing to practise, or holding herself out as practising, give notice in writing, on the prescribed form, to the local supervising authority, and must give a similar notice in the month of January in every year during which she continues to practise.

8. No certified Midwife may employ an uncertified substitute.

9. A Midwife may be suspended from practise in order to prevent the spread of infectious disease, or may be removed from the roll for disobeying the rules and regulations of the Central Midwives' Board, or for other misconduct.

10. Penalties are prescribed for any infringement of the foregoing provisions (1) (2) and (7); also for obtaining a certificate by false representation, or for wilful falsification of the Midwives' Roll.

11. An appeal lies to the High Court of Justice from any decision of the Central Midwives' Board removing a Midwife's name from the Roll, and to the Court of Quarter Sessions from any Summary Conviction for an offence under the Act.

REGINALD POTTS,

*Clerk of the County Council of Cheshire, being the
Local Supervising Authority under the Act.*

RESOLVED—That the action taken by the County Medical Officer of Health to give notice of the provisions of the effect of the Act to persons at present using the title of Midwife be approved, and which the Committee deem to be sufficient.

At a Meeting of the Midwives Act, 1902, Committee, on October 21st, 1904, the County Medical Officer of Health reported on the progress of the Registration of Midwives within the County, for the Quarter ending September 30th. Though he had originally sent out 533 circulars (accompanied by forms of application to be registered) to reputed Midwives, whose names and addresses had been given him, and

since then had issued 47 more circulars (accompanied by forms) to other reputed Midwives, whose names and addresses had been more recently supplied, only 41 women had applied to be registered and been entered in the County Register.

After considering this Report the Committee

RESOLVED—That the County Medical Officer of Health call the attention of the District Medical Officers of Health to the small number of Midwives registered up to the present time, and request them to explain to those Midwives in their respective districts who have not already been registered that they will be precluded by the Act from calling themselves Midwives after April 1st, 1905, unless they are in the meantime duly registered.

A circular letter was accordingly addressed to Medical Officers of Health for Boroughs and Districts in the County, and steps were taken by many of them to urge the Midwives, within their respective areas, to be registered. At the end of the year 1904, there were 152 women entered on the County Register of Midwives.

At the close of the first Quarter of 1905, there were 245 women entered on the County Register of Midwives. At the close of the second Quarter of 1905, this number was increased to 320, at the close of the third Quarter of 1905, this number was increased to 361, and at the close of the last Quarter of 1905, this number was increased to 435.

On January 19th, 1906, a printed list of the Midwives residing and practising in the County of Chester at the close of the year 1905 was presented by the County Medical Officer of Health to the Midwives Act, 1902, Committee. This list was sent to every Member of the County Council, and to the Medical Officer of Health for every Borough or District in the County. A copy was also supplied to every Midwife whose name appeared on the list. This official list gave the full name and address of every Midwife, the number of her certificate, the Borough or District to which she belongs, the date of her enrolment and qualification. It showed that there were 121 Midwives in the Municipal Boroughs, 175 in the other Urban Districts, and 139 in the Rural Districts.

As regards the qualifications which entitled these 435 Midwives to be enrolled, 349 claimed to be registered as they

were in *bona fide* practise as Midwives in July, 1901, and 82 claimed to be registered on account of their holding certificates in Midwifery, from approved Schools for Midwives. Four of the Midwives were not enrolled under Section 2 of the Midwives Act, but on account of having passed the examination of the Central Midwives' Board. Thus upwards of 80.2 per cent. of the Midwives in the County Register were unable to give evidence of having been trained and certified at an approved School of Midwives.

As after 1st April, 1905, no woman may call herself a Midwife unless certified as the Act provides, this appeared to be the date on which to commence the systematic supervision of these women. Accordingly on March 31st, a circular letter was addressed to the Medical Officer of Health of every Borough and District in the Administrative County. In this letter it was stated that the County Council, being the Supervising Authority under the Act, were required to make arrangements to secure a proper inspection of every Midwife's case-book, bag of appliances, &c., and when thought necessary an inspection of her place of residence, and an investigation of her mode of practise. The arrangement which the County Council thought best was that the Medical Officers of Health for Boroughs and Districts should make these inspections and investigations. Medical Officers of Health were therefore asked to undertake these duties, acting thus, on behalf of the Supervising Authority, as Assistants to the County Medical Officer of Health, and reporting to him thereon. Quotations were then made from the County Medical Officer's Report, presented to the Midwives Act Committee on April 29th, 1904, as to the duties, remuneration, &c.

From April 1st, 1905, all Medical Officers of Health for Boroughs and Districts in Cheshire have exercised general supervision over all Midwives residing in their several areas, and over the practise of Midwives when within their areas, who reside elsewhere.

Shortly after the close of the year 1905, all the Medical Officers of Health for Boroughs and Districts in the County submitted brief Reports (on forms supplied) with reference to the Midwives in their several areas, for the period extending from April 1st to December 31st, 1905. It was requested that each Report should contain replies to the following questions:—

Name of Borough or District.

1. What is the number of Midwives in the County Register residing in the Borough or District?

2. Do all these Midwives keep case books or registers, and are they fairly well kept?
3. Are there any Midwives who cannot write, and if so, how are their case books or registers kept?
4. What is the total number of cases attended by registered Midwives during the period under review?
5. How many records of sending for Medical help have been received?
6. How many deaths of mothers which have occurred before the attendance of a Medical Practitioner has been notified by Midwives?
7. How many deaths of infants which have occurred before the attendance of a Medical Practitioner has been notified by the Midwives?
8. How many still-births have been notified by Midwives? A child is deemed to be still-born when it has not breathed or shown any sign of life after being completely born.
9. How many cases of puerperal fever are known to have arisen in cases attended by registered Midwives?
10. How many cases of other infectious disease are known to have occurred in cases attended by registered Midwives?
11. Are facilities afforded in Borough or District for the disinfection of Midwives who have been attending cases of puerperal fever or other infectious disease, or cases in which there are foul-smelling discharges?
12. In how many instances has the conduct of a Midwife been reported to the Supervising Authority and made the subject of special inquiry?
13. How many Midwives have been suspended from practise.
14. Are all the appliances, &c., which are required in the Rules to be taken to a case of confinement, provided by each Midwife and kept clean and in order?

15. Are the Midwives' houses or lodgings in a fairly sanitary condition and kept clean?
16. Is the recent direction of the Central Midwives' Board, that the temperature and pulse should be taken and recorded in every case, systematically carried out by every Midwife?

General Remarks with reference to Midwives.

A digest of the information contained in these Reports was given in the County Medical Officer's Annual Report for 1905.

Shortly after the close of 1907, all the Medical Officers of Health for Boroughs and Districts in the County submitted brief Reports (on forms supplied) with reference to the Midwives in their several areas, for the year ending December 31st, 1907. It was requested that each Report should contain replies to the 16 questions just given.

In the circular sent out in previous years replies to only 15 questions were invited, question 16 had to be added, as in August, 1907, a copy of the following Resolution, recently passed by the Central Midwives' Board, was received from the Secretary of the Board :—

“RESOLVED—That inasmuch as changes in the pulse and temperature are the earliest and surest indication of the onset of puerperal fever when the disease is still amenable to treatment, the Board do call the attention of Local Supervising Authorities to the importance of instructing and encouraging Midwives practising within their areas in taking and recording regularly the pulse and temperature in every case under their care.”

On August 19th, 1907, a print of this Resolution was sent to every Medical Officer of Health in the Administrative County, accompanied by a request that each Medical Officer would do his best to instruct and encourage Midwives within his area, to take and record regularly the pulse and temperature in every case.

The 473 Midwives in the County Register at the close of the year 1907, were distributed over the Administrative area as follows :—

MUNICIPAL BOROUGHES.

Congleton	...	...	16	Macclesfield	...	...	12
Crewe	...	...	29	Stalybridge	...	...	17
Dukinfield	...	...	14				
Hyde	...	...	33	Total	...	...	121

OTHER URBAN DISTRICTS.

Alderley Edge	...	...	1	Hoylake and West Kirby	...	...	6
Alsager	...	...	3	Knutsford	...	...	5
Altrincham	...	...	10	Lymm	...	...	6
Ashton-upon-Mersey	...	...	4	Marple	...	...	0
Higher Bebington	...	...	2	Middlewich	...	...	4
Lower Bebington	...	...	2	Mottram	...	...	2
Bollington	...	...	3	Nantwich	...	...	7
Bowdon	...	...	1	Neston and Parkgate	...	...	4
Bredbury and Romiley	...	...	7	Northwich	...	...	17
Bromborough	...	...	1	Runcorn	...	...	13
Buglawton	...	...	5	Sale	...	...	4
Cheadle and Gatley	...	...	4	Sandbach	...	...	6
Compstall	...	...	1	Tarporley	...	...	0
Ellesmere Port and Whitby	...	...	3	Wallasey	...	...	37
Hale	...	...	3	Wilmslow	...	...	4
Handforth	...	...	1	Winsford	...	...	23
Hazel Grove and Bramhall	...	...	5	Yeardsley-cum-Whaley	...	...	3
Hollingworth	...	...	1				
Hoole	...	...	1	Total	...	...	199

RURAL DISTRICTS.

Bucklow	...	...	16	Northwich	...	...	18
Chester	...	...	8	Runcorn	...	...	20
Congleton	...	...	20	Tarvin	...	...	13
Disley	...	...	2	Tintwistle	...	...	0
Macclesfield	...	...	13	Wirral	...	...	15
Malpas	...	...	7				
Nantwich	...	...	22	Total	...	...	154

It will be seen that the areas in which were the largest number of Midwives at the end of 1907 were the Urban District of Wallasey (37), the Borough of Hyde (33), and the Borough of Crewe (29), while in the Urban Districts of Marple and Tarporley and in the Rural District of Tintwistle there were no Midwives.

The replies to Question 2 are still not quite satisfactory, but show that much improvement has taken place during 1907. In Crewe all the Midwives have registers, and only one does not keep her register fairly well, the remainder, with the exception of the column for duration of each stage of labour, are fairly well kept. At Macclesfield Borough the Midwives keep their registers better than they did at first. At Congleton, Dukinfield, Hyde and Stalybridge, all the Midwives, have registers and keep them fairly well. At Bollington, two of the Midwives keep their registers very well, and one not quite fully. At Bredbury and Romiley the Midwives require plenty of instruction, and their registers are usually in arrears. At Cheadle and Gatley

only one of the four Midwives ordinarily practises as a Midwife, and she keeps her register fairly well, the others act as obstetric nurses under doctors. At Neston and Parkgate all but one keep their registers fairly well, and this woman has been doing better lately. At Runcorn Urban District ten out of the thirteen Midwives keep their registers fairly well. At Wallasey the Midwives' Registers are much better kept than at first, and more intelligently filled up. At Winsford the Midwives keep registers, more or less efficiently. The reports from the other Urban Districts show that all the Midwives have registers and keep them fairly well. In Bucklow Rural District all the Midwives keep registers, except one, and on the whole fairly well. At Disley the only Midwife in actual practice does not keep a proper register. At Malpas Rural District five of the Midwives keep their registers fairly well. One mentioned before as not having a register, died during 1907, and the remaining Midwife does not keep her register properly. In Runcorn Rural District two women have not been keeping proper registers, but both promise amendment. In Tarvin Rural District twelve Midwives keep their registers fairly well, the remaining Midwife has given cause of complaint, but at the end of the year was doing better. At Wirral Rural District all the Midwives keep their registers fairly well, with the exception of two. In the remaining Rural Districts the Midwives' registers are fairly well kept.

The answers to Question 3 indicate that many of the Midwives in Cheshire cannot write. In the Borough of Congleton there are four Midwives who cannot read or write, and their books are kept by relatives or friends. At Crewe thirteen Midwives cannot read or write. Their registers are generally kept by daughters; in two instances the register is entered up by another Midwife. At Dukinfield six Midwives cannot write, and the register is kept by a daughter or neighbour. At Hyde eight Midwives are unable to write—some member of the family keeps the book in each instance. In Macclesfield Borough two Midwives cannot write, and in each instance the registers are kept by the women's daughters. At Stalybridge four of the Midwives cannot write; in three instances the register is kept by a son or daughter, and in one instance by the woman's husband. At Alsager one woman cannot write, and dictates to her daughter what she wants written in the register. Of the seven Midwives in Bredbury and Romiley only two can write well enough to keep their registers, the others get the entries in the register written by friends or relatives, and often by the Medical Officer of Health. At Buglawton the one Midwife who cannot write has had no cases. At Compstall the only Midwife who cannot write gets her daughter to keep the register. At Hazel Grove a Midwife who cannot

write gets her daughter to keep the register. At Knutsford one woman cannot write, and her register is kept by relatives. At Lymm one Midwife, who cannot write, has the register kept by her son. At Middlewich a Midwife cannot write, and a member of the family keeps the register. In Nantwich town four Midwives cannot write, and their registers are kept by relatives. At Northwich Urban District four Midwives cannot write, and their registers are kept by others. In Runcorn Urban District three Midwives cannot write, and get relatives to keep their books. At Sale there are two Midwives who write indifferently, but their books are kept satisfactorily by friends. At Sandbach are two Midwives who cannot write, and get their daughters to keep their books. At Wallasey two or three of the Midwives are poor writers, and get relatives to keep their books. At Winsford seven of the Midwives cannot write, and employ relatives, or get the Inspector of Nuisances to write up their books. At Bucklow Rural District five of the Midwives are partly or wholly illiterate, and get their registers kept by relatives. At Congleton nine Midwives cannot write, and the registers are kept by their children. In Macclesfield Rural District there are three Midwives who cannot write, and their registers are kept by their daughters. In Malpas one Midwife cannot write, and two write very poorly, thus three Midwives rely on others to write up their registers. In Nantwich Rural District there are six women who get their registers well kept by relatives or friends. Three of these are quite illiterate. In Northwich Rural District there are three Midwives who cannot write, and get their registers kept by others. In Runcorn Rural District there are seven Midwives who cannot write, and their books are very well written up by relatives living in the same house. In Tarvin Rural District one Midwife cannot write, and gets her register written up by someone in the patient's house, in each case. In Wirral Rural District, the only Midwife who cannot write has not kept a register, but she only attended one case as Midwife during the year, and gets her living ordinarily as an obstetric nurse.

The answers to Question 4 show that the total number of cases attended by Midwives in Cheshire, during 1907, in each of the Municipal Boroughs, other Urban Districts, and Rural Districts was as follows :—

MUNICIPAL BOROUGHS.

Congleton	...	...	171	Macclesfield	...	...	660
Crewe	...	...	923	Stalybridge	...	...	512
Dukinfield	...	...	397				
Hyde	...	...	627				3290

OTHER URBAN DISTRICTS.

Alderley Edge ...	...	25	Hoyle and West Kirby ...	163
Alsager ...	...	23	Knutsford ...	85
Altrincham ...	...	323	Lymm ...	31
Ashton-upon-Mersey ...	...	80	Marple ...	0
Higher Bebington ...	...	43	Middlewich ...	128
Lower Bebington ...	...	183	Mottram ...	55
Bollington ...	...	131	Nantwich ...	197
Bowdon ...	...	8	Neston and Parkgate ...	102
Bredbury and Romiley ...	...	102	Northwich ...	299
Bromborough ...	...	71	Runcorn ...	390
Buglawton ...	...	26	Sale ...	182
Cheadle and Gatley ...	...	1	Sandbach ...	174
Compstall ...	...	5	Tarporley ...	0
Ellesmere Port and Whitby ...	...	174	Wallasey ...	788
Hale ...	...	18	Wilmslow ...	66
Handforth ...	...	11	Winsford ...	204
Hazel Grove and Bramhall ...	...	94	Yeardsley-cum-Whaley ...	74
Hollingworth ...	...	28		
Hoole ...	...	18		4213

RURAL DISTRICTS.

Bucklow ...	...	129	Northwich ...	229
Chester ...	...	65	Runcorn ...	289
Congleton ...	...	182	Tarvin ...	123
Disley ...	...	33	Tintwistle ...	0
Macclesfield ...	...	151	Wirral ...	202
Malpas ...	...	53		
Nantwich ...	...	293		1749

Thus during 1907 there were 9,252 women, 59.3 per cent. of the parturient women in the County, attended during confinement by Midwives. In 1906 there were 9,435, 58.98 per cent. of the parturient women in the County attended during confinement by Midwives. In 1905 about 56.26 per cent. of the parturient women in the County were attended during confinement by Midwives.

As regards sending for medical help, the answers to Question 5 show that 287 records were received from Midwives in the Municipal Boroughs, 349 from Midwives in the other Urban Districts, and 127 from Midwives in the Rural Districts. From some of the Boroughs many notices were received, thus in Hyde there were 111, and in Dukinfield 92; but in Crewe there were only 7, and in Stalybridge 6. In Hazel Grove and Bramhall Urban District there were 41. However, in 13 Urban Districts, and 3 Rural Districts not one notice of sending for Medical help was received. The whole number of these records received in 1907, was 763, and the whole number received in 1906, was 896.

The information obtained from the replies to Question 6 is quite satisfactory. There is no evidence that in any single instance a lying-in woman (attended by a Midwife) died before being seen by a Medical Practitioner.

The replies to Question 7 are generally satisfactory. In all, the deaths of 19 infants before being seen by a Medical Practitioner were notified by a Midwife. This record is distinctly better than that of 1906, when 28 infants died before being seen by a Medical Practitioner.

The number of still-births notified by Midwives in Cheshire during 1907, was as follows :—122 in the Municipal Boroughs, 94 in the other Urban Districts, and 20 in the Rural Districts, in all 236. In 1906 the number of still-births notified was 228.

The number of cases of puerperal fever known to have occurred among lying-in women attended by Midwives in Cheshire during 1907, was 42. Seven occurred in the Municipal Boroughs, 27 in the other Urban Districts, and 8 in the Rural Districts. Out of the 42 cases of puerperal fever notified, 31 occurred in the practice of Midwives.

The only case of other infectious disease known to have occurred among lying-in women, attended by Midwives in Cheshire during 1907, was one case of influenza at Crewe.

As regards facilities for the disinfection of cases requiring it, all the Boroughs except Stalybridge have facilities, and the Stalybridge Corporation provided a well-equipped Disinfection Station, during 1907, which was available at the end of the year. A very large number of the other Urban Districts have no facilities at present. According to the Reports of the Medical Officers of Health facilities are not afforded in the following districts, viz.: Alsager, Ashton-upon-Mersey, Bollington, Bowdon, Cheadle and Gatley, Compstall, Hale, Handforth, Hollingworth, Knutsford, Lymm, Middlewich, Mottram, Northwich, Runcorn, Sale, Winsford and Yardsley-cum-Whaley. The Rural Districts which are without these facilities are Bucklow, Congleton, Disley, Marple, Northwich and Tintwistle.

Questions 12 and 13 relating to the misconduct of Midwives and their being suspended from practice may be briefly answered as follows :—

During 1907, five Midwives were reported to the Supervising Authority, and made the subject of special inquiry. The County Medical Officer very carefully investigated the charge of negligence, malpractice or misconduct in each of these cases. In one instance there appeared to be no justification for the complaint made. In three instances a case of negligence, or carelessness appeared to be proved, and the Midwife was censured accordingly. In one instance there was good evidence that puerperal fever had

been communicated from one case to another, owing to the Midwife not conforming to the rules of the Central Midwives' Board. The woman was accordingly reported to the Board, who investigated the charge, and eventually removed the woman's name from the Midwives' Roll. She has since ceased to practice. Ten Midwives were suspended, for periods varying from one week to three months. In one instance this was owing to a case of scarlet fever occurring in the house where the midwife lodged, and in remaining instances, the suspension was due to puerperal fever.

The answers to Question 14 are certainly not as satisfactory as they might be, but show some improvement on the answers recorded in the Reports for 1906. At Crewe vaginal douches are frequently not provided. The Medical Officer states that in many instances he has occasion to discourage their use, and advised Midwives, if douching is required, to get medical assistance. In the Borough of Macclesfield, the appliances are provided fairly well, but some fail to carry two sets of appliances for douche and enema. This is to be remedied. At Stalybridge all the required appliances are carried, with very few exceptions. At Bollington one Midwife does not keep her appliances in good order. At Knutsford two of the Midwives have not all the appliances. At Lymm, the Midwives are stated to "carry the necessary appliances, as a rule, except catheters." One of the four Midwives in Middlewich does not provide all the appliances required, or keep those she carries in good order. In Nantwich Urban District the necessary appliances are carried, and with one exception, fairly well kept. At Neston and Parkgate a Midwife who recently came into the District, has not yet completed her equipments, but has undertaken to do so.

In Northwich Urban District, the required appliances are, with few exceptions, provided and kept in order. In the town of Runcorn one of the Midwives has not provided all the appliances, or kept those she has in order. At Wallasey the Midwives in nearly every case carry the necessary apparatus. The Medical Officer encourages the use of Gall's catheters, as they can be more readily kept strictly clean. At Winsford the Midwives do not all carry the necessary apparatus. The Medical Officer states that of the 23, "very few are competent." In Bucklow Rural District, the properly qualified Midwives always carry the required appliances and keep them clean and in good order. The others have no catheters, douche-cans or thermometers. Out of the 8 Midwives in Chester Rural District, two do not carry all the appliances, *vide* the Regulations, but those they have are kept clean. Of the two Midwives resident in Disley Rural District, one of them is not in practice as a Midwife, and the other is without the proper

appliances. Of the seven Midwives in Malpas Rural District some do not keep all the apparatus required, "but sufficient for practical purposes." In Northwich Rural District, with few exceptions the Midwives carry the required appliances and keep them clean. In Runcorn Rural District, the appliances carried by three Midwives are inefficient, but all have promised to improve them. With one exception, the thirteen Midwives in Tarvin carry the necessary appliances and keep them in order. The woman excepted has no douche or thermometer, but has promised to obtain them. The 15 Midwives in Wirral, with one or two exceptions, carry all the required appliances and keep them clean. All the Districts not referred to in the above statement are served by Midwives who carry all necessary appliances, and keep them in good order.

The answers to Question 15 show that Midwives' houses, or lodgings are in a fairly satisfactory condition as a rule, and cleanly kept. There is an exception to this rule in one case at Knutsford, and in three or four cases at Winsford. In Runcorn Rural District, the dwelling-house occupied by a Midwife at Frodsham Bridge is defective as regards sanitary accommodation, but steps are being taken to improve this.

The 16th and last question it may be remembered runs as follows:—Is the recent direction of the Central Midwives' Board, that the temperature and pulse should be taken and recorded in every case, systematically carried out by every Midwife? As this direction was only formally communicated to District Medical Officers of Health in August, and as it is often no easy task to get Midwives to understand and give effect to it, too much must not be expected at first. Of the 29 Midwives in Crewe, 10 who cannot read, or have bad eyesight do not use thermometers. The others have been instructed by the Medical Officer, and use their thermometers. The Medical Officer for Dukinfield has also personally instructed his Midwives in the use of the thermometer; but only two or three out of the 14 Midwives use the instrument regularly.

The report from Hyde is more satisfactory, in this town the temperature and pulse are taken by all the Midwives regularly. However, in many instances they are not recorded or imperfectly recorded. The Medical Officer of Health on receipt of a copy of the Resolution from the Central Midwives' Board, specially visited each Midwife in the Borough, and instructed them in the method of taking the pulse and temperature, and recording them. In the Borough of Macclesfield, some of the better class Midwives keep this new rule fairly well. The report from Stalybridge is that no permanent record is taken of pulse and temperature, except where

these are abnormal. In the Borough of Congleton, where there are 16 Midwives, the new rule is not carried out.

The Report from the following Districts, is that the new regulation is complied with, viz. :—Alderley Edge, Alsager, Lower Bebington, Bollington, Bowdon, Bromborough, Cheadle and Gatley, Hale, Handforth, Hoole, Sandbach, and Wallasey. The report from Runcorn Urban District is that the work is not done quite regularly, but fairly well. The report from Hollingworth and Mottram is, that pulse and temperature are stated to be taken and recorded in every case, which seems to imply that only the Midwives themselves vouch for this being done. At Altrincham the Midwives are not very regular in obeying the new direction, but the Medical Officer hopes to bring about an improvement. At Higher Bebington one of the Midwives obeys the direction, and the other is not capable of doing so. At Ellesmere Port, the three Midwives who reside there, are reported to be endeavouring to comply with the new requirement. At Hoylake and West Kirby, five Midwives do as directed, and one does not. At Knutsford, four Midwives keep the rule, and one does not, and at Middlewich three keep the rule, and one does not. The six Midwives at Lymm appear to take the temperature regularly, but do not count the pulse, and no records of either are entered in the register. At Neston and Parkgate one Midwife regularly takes and records the temperature, and the three others appear to be trying to do so. Three of the Midwives at Sale take and record the temperature in every case, the remaining one only does this when there is reason to suspect the patient is not going on well. At Wilmslow three of the Midwives carry out the rule, but one excuses herself for not recording the pulse by saying she has no watch. At Yeardsley-cum-Whaley there appears to be no evidence that the new rule is obeyed.

The reports from the following Districts show that the new Rule is not obeyed, viz. :—Ashton-upon-Mersey, Buglawton, Compstall, Nantwich Urban District and Northwich Urban District. The report from Winsford states that very few of the 23 Midwives there are capable of being taught to do this work. The record from Bredbury and Romiley is somewhat similar ; the Medical Officer notes that each Midwife in his District had a printed notice of the new requirement, and he did his best to instruct them personally, but found them incapable of taking and recording temperature and pulse, as a routine procedure.

The records from Congleton Rural District, Disley Rural District and Northwich Rural District show that the new Rule is not carried out. The report from Bucklow Rural

District is that the new directions are obeyed by the qualified Midwives only, most of the others being frankly indifferent to the matter. One of the unqualified, in attempting to obey the Rule, recorded a temperature of 92 degrees on one occasion, and 108 degrees on another. One of the illiterate Midwives, by way of surmounting the new difficulty records all temperatures in her register as "normal." At Chester four of the Midwives are too illiterate to obey the Rule, the others do so. In Macclesfield Rural District the new Rule is carried out by trained Midwives fairly well, but the women who neither write nor read cannot be taught to keep such records. At Malpas several Midwives are doing their best to comply with the rule, the others are too illiterate. The Medical Officer for Nantwich Rural District reports that the new Rule is obeyed by the trained Midwives; but imperfectly, or not at all by others. The Medical Officer for Runcorn Rural District has endeavoured to get Midwives to comply with the new directions. A few are very careful to do so, but the majority only take the patient's temperature when they anticipate trouble. At Tarvin five Midwives out of thirteen carry out the new regulation; in Wirral the proportion is much larger, ten out of fifteen regularly doing as desired.

Under the heading, "General Remarks with reference to Midwives," are a few observations of some interest. The Medical Officer of Health for the Borough of Congleton draws attention to the large number (6) of the Midwives in the town who act solely as monthly nurses. The Medical Officers of Health of other Districts refer to the fact that many Midwives never undertake entire charge of a patient. These women have had their names enrolled by the Central Midwives' Board, in order "to preserve their rights," and in order to enable them to act as Midwives when they fail to obtain employment as monthly nurses. The Medical Officer of Health for Crewe reports, "As the Midwives are now more familiar with the Rules of the Board, and know what is expected of them, there is a distinct improvement in their methods. They are decidedly cleaner in dress and person, every one of them carries her own soap and nail brush, clean aprons, etc. They are also more ready to obtain medical assistance." At Dukinfield not one of the Midwives has had any training at a school of Midwifery, and they require much instruction. Very great improvement has taken place among the Midwives, as regards cleanliness of person and appliances. At Hyde the Midwives are for the most part untrained, 8 being absolutely illiterate. During 1907 considerable improvement was noticed in the methods of the majority of the Midwives—"all now use disinfectants freely and intelligently, and they are much more cleanly in their habits." The Medical Officer of Health for the Borough of Macclesfield

finds that the Midwives "on the whole show distinct indications of improvement." At Stalybridge the Medical Officer states, "The Midwives appear to be striving to perform their duties in a conscientious and satisfactory manner." At Altrincham the standard of conduct among the Midwives is maintained at a fairly high level.

The Medical Officer for Bredbury and Romiley reports that "as the results of his repeated visits and instruction there is some improvement, especially as regards 'the fear of infection,' " and as a consequence there is greater cleanliness practised. At Buglawton, only one of the five Midwives practises as a Midwife, the others being monthly nurses only. However, all have the regulation bags and appliances, and keep them in order. In Nantwich Urban District, the Medical Officer of Health states that many of the Midwives are old and infirm women, and that it is practically impossible to get these to keep their registers and appliances in a satisfactory state. In Congleton Rural District the improvement noted in 1906, in the general conduct of Midwives, has continued during 1907. In Macclesfield Rural District the Midwives are growing far more regular in their use of antiseptics. In Nantwich Rural District the Medical Officer states that the supervision of the untrained Midwives is having a good effect. The Medical Officer of Health for Runcorn Rural District notes in 1907 there was a marked improvement on the previous year, practically in every respect.

As regards the qualifications which entitled these 473 Midwives to be enrolled, 361 claimed to be registered as they were in bona-fide practise as Midwives in July, 1901, and 112 claimed to be registered on account of their holding certificates in Midwifery from approved Schools for Midwives, or on account of having passed the examination of the Central Midwives' Board. Thus only 23.67 per cent. of the Midwives in the County Register have given evidence of their having been trained and certified at an approved School of Midwives or passed the examination of the Central Midwives' Board.

Erysipelas is notified, but not as thoroughly or carefully as most notifiable diseases. On the other hand, cases which it would be difficult to maintain were true erysipelas are occasionally reported as erysipelas. However, as the disease is a specific infectious one, characterised by spreading inflammation of the skin, due to the presence of a micro-organism, and especially liable to attack debilitated persons, puerperal patients, and those suffering from wounds, it is expedient and necessary that it should

be notified. Provided all the actual cases of the disease are reported, it is of little moment if an occasional case of simple inflammation of the skin is notified in error. Erysipelas is undoubtedly associated with insanitary conditions, and this fact is mentioned in two or three Reports. Cases notified should therefore be investigated as carefully as cases of diphtheria ordinarily are ; premises where the disease arises should be examined, defects remedied, and disinfection undertaken. At present in many Districts very little is done to combat erysipelas or prevent its spread, and in some Districts nothing is done.

During 1907 the number of cases notified in the Municipal Boroughs was 102 and there were 3 deaths. In the other Urban Districts there were 167 cases notified with 6 deaths ; in the Rural Districts 105 cases, and 4 deaths. Of the 167 cases notified 6 were sent to hospital. In 1906 the number of cases notified was 403, and the number of deaths was 17. In 1905 the number of cases notified was 472, and the number of deaths was 21. In 1904 the number of cases notified was 492, and the number of deaths was 26. In 1903 the number of cases notified was 363, and the number of deaths was 26. In 1902 the number of cases notified was 383, and the number of deaths was 14. In 1901 the number of cases notified was 376, and the number of deaths was 23. In 1900 the number of cases notified was 393, and the number of deaths was 14. In 1899 the number of cases notified was 435, and the number of deaths was 10. In 1898 the number of cases notified was 348, and the number of deaths was 15. In 1897 the number of cases notified was 383, and the number of deaths was 22. In 1896 the number of cases notified was 355, and the number of deaths was 18. In 1895 the number of cases notified was 309, and the number of deaths was 20. In 1894 the number of cases notified was 397, and the number of deaths was 23. In 1893 the number of cases notified was 538, and the number of deaths was 27. In 1892 the number of cases notified was 247, and the number of deaths was 36. Thus the number of cases notified in 1906 was 28 above the average in 1892—1905, and the number of deaths in 1906 was 4 below the average in 1892—1905.

Other Septic Diseases.—This is a term which appeared for the first time in the new forms issued for 1900 by the Local Government Board ; there being no term corresponding to it previously in use. During 1907 the deaths of 28 persons came under this heading, during 1906 the deaths of 32 persons came under this heading, during 1905 the deaths of 28 persons came under this heading, during 1904 there were 37 deaths under this heading, during 1903 there were 39 deaths under this heading, during 1902

there were 37 deaths under this heading, during 1901 there were 30 deaths and during 1900 there were 31 deaths under this heading.

Cerebrospinal Meningitis.—A case of what was believed to be epidemic cerebrospinal meningitis was reported in the Borough of Crewe during 1907. The patient was a girl of 8, and lumbar puncture was performed. Professor Delépine, to whom the fluid was sent for examination, reported that there was no evidence that the case was one of epidemic cerebrospinal meningitis.

Phthisis.—During 1907 phthisis was certified as the cause of 191 deaths in the Municipal Boroughs; of 241 deaths in the other Urban Districts, and of 95 in the Rural Districts, in all 527. Thus the death-rate in the Municipal Boroughs was 1.08 per 1000 living, in the other Urban Districts it was 0.79 per 1000 living, and in the Rural Districts it was 0.54 per 1000 living. The phthisis death-rate for Cheshire in 1907 was 0.80 per 1000 living. In 1906 the phthisis death-rate for Cheshire was 0.89, in 1905 it was 0.76 per 1000 living.

In 1905 it was 0.76, in 1904 it was 0.89, it was 0.86 in 1903, it was 0.97 in 1902, it was 1.02 in 1901, it was 0.95 in 1900, it was 1.06 in 1899, it was 1.14 in 1898, it was 1.09 in 1897, it was 1.14 in 1896, it was 1.22 in 1895, it was 1.12 in 1894, it was 1.25 in 1893, and it was 1.31 in 1892. The phthisis death-rate for the County in 1905 was therefore 0.31 below the average in the years 1892-1904; in 1906 it was only 0.18 below this average. However, high phthisis death-rates were recorded in 1906 in the Borough of Macclesfield (1.47), the Borough of Hyde (1.26), the Borough of Stalybridge (1.25), and the Borough of Congleton (1.21). During 1907 the phthisis death-rate fell in nearly all the Municipal Boroughs. In Congleton it was only 0.8; in Crewe 0.5; in Dukinfield 1.3; in Macclesfield 1.4, but in Stalybridge it rose to 1.35.

In many Districts handbills giving general rules to be observed with reference to sufferers from this disease have been issued, and are distributed as occasion requires. The bills are drafted on the lines of the "Memorandum on Precautions against the Infection of Phthisis or Consumption," issued by direction of the County Council in February, 1894. These handbills are all calculated to impress upon those who receive them that phthisis is a distinctly infectious disease, and that active measures should be taken to prevent its spread. The Medical Officer of Health for Crewe notes that disinfection of houses, bedding, etc., is carried out in all fatal cases of phthisis or tuberculosis, free of

charge. The Corporation also enable Medical Practitioners to obtain bacteriological examination of specimens of sputum from suspected cases of phthisis. It is also mentioned that the following Bye-law came into force in the Borough of Crewe towards the close of 1902: "No person shall spit on the floor, side, or wall of any public carriage, or of any public hall, public waiting room, or place of public entertainment, whether admission thereto be obtained upon payment or not, within the Borough. Any person offending against this bye-law shall be liable to a fine not exceeding £5." Copies of this bye-law are posted up in public places, and doubtless will be effective in diminishing a source of danger.

The Medical Officer of Health for the Borough of Hyde has induced his Authority to adopt a scheme for the voluntary notification of phthisis. After a notification is received, the Inspector visits the house, and leaves there a printed leaflet of instructions.

In the Borough of Macclesfield houses infected owing to phthisis are disinfected without any charge being made. The Authority in this Borough has issued a printed placard warning people not to spit on the walls or floors, which has been hung up in the common lodging-houses. It is hoped that publicans will hang these placards in their bar-parlours, and that manufacturers will see their way to having the placards hung in their mills, workshops, &c.

The Medical Officer of Health for the Urban Districts of Knutsford, Middlewich, and Winsford, and the Rural District of Bucklow, reports that by direction of these Authorities he sent out a circular in May, 1901, to medical men practising wholly or partially in these Districts, offering a half-crown fee for each voluntary notification of a case of phthisis, but very few notifications were received. However, in these Districts, disinfection where cases of phthisis exist, and especially after death therefrom, is offered. Accordingly, in several instances in these Districts, disinfection has followed a fatal case of phthisis or tuberculosis. The Ashton-upon-Mersey District Council also disinfect premises in which death from phthisis has occurred, and so do the Bredbury and Romiley District Council.

In January, 1902, the District Council of Hoylake and West Kirby resolved to carry out the disinfection of premises infected from all cases of phthisis. Accordingly, circulars were sent to all practitioners in the District, intimating that his work would be done free of cost, on request. Seven houses were disinfected in 1902, six houses were disinfected in 1903, five

houses were disinfected in 1904, five houses were disinfected in 1905, seven houses were disinfected in 1906, and six houses were disinfected in 1907.

The Provision of Sanatoria for Consumptive Patients.—Early in the year 1902 a communication was received from the Clerk to the Guardians of the Wirral Poor Law Union, intimating that the Workhouse Committee had under consideration the desirability of separating consumptive patients from other sick inmates in their Infirmary, but that they had no convenient wards on the Workhouse premises available for the purpose.

There seemed no prospect of obtaining any accommodation at the Liverpool Sanatorium, Delamere Forest, or at the Sanatorium being erected at Heswall, so a circular letter was sent to all the Unions in the County, inviting them to send delegates to a Conference, to consider if it might not be practicable to unite, with the view of providing a Sanatorium for pauper cases in the County. This Conference was held, being attended by representatives from most of the large Unions in the County, and the following Resolution was passed unanimously :—

“That this Conference requests the County Council to consider the advisability of providing Sanatoria for the treatment of consumptive cases.”

In response to this communication, the Sanitary Authorities and Boards of Guardians in the County were invited to send delegates to a Conference, which was in due course held at Crewe, on July 10th, 1902. This Conference was well attended, and after a full discussion on the subject of the provision of a Sanatorium or Sanatoria for the County for the treatment of consumptives, the following Resolution was passed :—

“That in the opinion of this Conference—but without in any way committing the several Authorities represented—it is desirable that a Sanatorium or Sanatoria should be established in the County for the treatment of consumption, and that the County Council should take the necessary steps, under the Isolation Hospitals Acts, with a view to an order being made including all the Sanitary Districts in the County a Hospital District, for the establishment of such Sanatorium or Sanatoria, and at the same time obtain the consent of the Local Government Board to include ‘Phthisis’ as an infectious disease within the meaning of the Infectious Disease (Notification) Act.”

A copy of this Resolution was sent to the Sanitary Authorities and Boards of Guardians in the County, with a request

for an expression of opinion thereon. A large number of replies were before the Public Health Committee, on October 31st, 1902, when (as other replies had yet to come in) their consideration was adjourned.

During 1903 replies came in slowly. At a meeting of the Public Health Committee on October 23rd, 1903, a statement was made showing the result of enquiries, and the consideration of the matter was again adjourned till further replies had been received.

At a meeting of the Isolation Hospitals Acts Sub-Committee, held at Crewe, on October 6th, 1904, the above Resolution was further considered, and the Clerk reported that the Local Government Board had approved the Order, made by the Council at its Meeting on February 12th, 1903, that "Pulmonary Tuberculosis" should be considered an infectious disease for the purposes of the Isolation Hospitals Acts, 1893 and 1901.

The Clerk also reported that of the Sanitary Authorities, 2 Boroughs, 22 other Urban Districts, and 7 Rural Districts approved of the above Resolution passed at the Conference; 2 Boroughs, 4 other Urban Districts, and 4 Rural Districts objected to the same Resolution; and 2 Boroughs, 9 other Urban Districts, and 2 Rural Districts were neutral, or had not definitely replied. The summary was as follows:—

		Sanitary Authorities.		Population, Census, 1901.		Assessable Value.
						£
Approve	...	31	...	276,142	..	1,544,839
Object	...	10	...	130,984	...	652,919
Neutral, or no reply	...	13	...	184,479	...	1,106,119
Total Assessable value of County ...						<u>£3,303,877</u>

As to the Boards of Guardians, the following were their observations on the Resolution passed at the Conference:—

ASHTON-UNDER-LYNE	...	Approve.
BIRKENHEAD	...	Approve.
BUCKLOW	..	Approve.
CHESTER	...	In sympathy with all efforts made by the Council to mitigate the scourge of consumption, but cannot see its way to support the resolution.

CONGLETON	... Object.
HAYFIELD	... Decided to do nothing.
MACCLESFIELD	... Decided to wait particulars before committing themselves.
NANTWICH	... Unable to express any opinion until they receive more definite information.
NORTHWICH	... Will give favourable consideration to Resolution, but require further information.
RUNCORN	... Consider some provision should be made for the establishment of a Sanatorium as an experiment.
STOCKPORT	... Approve.
TARVIN	... Object.
WHITCHURCH	.. Approve, provided that financial arrangements satisfactory to the Board are made.
WIRRAL	... Approve, but submit to the Council the necessity of providing in such Institution for cases looked upon as incurable, and urge the Council to take the earliest opportunity of dealing with this important subject.

After the whole question had been discussed at some length,
it was

RESOLVED—That the County Medical Officer of Health report as to what, in his opinion, is the most suitable form of Sanatorium for Cheshire, if the Council should hereafter determine to provide a Sanatorium or Sanatoria for the County, or any part thereof, together with an estimate of the cost thereof, and also to report the results which experience has shown to ensue from the treatment of pulmonary tuberculosis in Sanatoria in this and other Counties, and generally on the subject.

At a meeting of the Public Health Committee, held at Crewe on October 21st, the portion of the Sub-Committee's Report referred to was adopted, and at the Quarterly Meeting of the Council, held at Chester Castle, on November 10th, the same was adopted.

In due course the County Medical Officer submitted a Report as directed. This Report was dated December 15th, 1904. The conclusions arrived at are thus stated :—

After carefully considering the whole subject referred to him, the County Medical Officer has come to the following conclusions :—

(1) That, considering there are at present in Cheshire three Sanatoria for consumptives, and another Sanatorium (much larger than the others) is nearly completed, and that there is no probability of any of these being ordinarily available for Cheshire patients, it is expedient that a Sanatorium should be provided for the County.

(2) That an excellent form of Sanatorium (similar to that which has been adopted at Holt, Norfolk), in which patients are practically day and night in the open air, may be provided at a very moderate cost.

(3) That a Sanatorium on these lines, to accommodate 22 patients, may be provided at a cost of £3,600, and that this could be extended to give accommodation to 44 patients, at an additional expenditure of £1,107.

(4) That the open air treatment of consumptives has the almost universal support of the medical profession, and that it offers the best prospect of curing the patient, apart altogether from its value in preventing the spread of the disease.

(5) That the results which experience has shown to ensue from the open air treatment of pulmonary tuberculosis in this country and elsewhere, are exceedingly satisfactory.

(6) That no sound objections have hitherto been advanced against the open air treatment of consumptives.

(7) That Sanatoria for consumptives do not appear to be a source of danger to the surrounding neighbourhood.

The Report was considered at a Meeting of the Isolation Hospitals Acts Sub-Committee, on June 22nd, 1905, and the following Resolution was passed :—

RESOLVED—That such Report be received, and the conclusions set out at the foot thereof approved, and that after a paragraph has been inserted therein to the effect that in all probability the Local Government Board will sanction the borrowing of at any rate of the portion of the cost of

providing the class of Sanatorium indicated therein, representing the purchase of the land as a site thereof, and the erection of the buildings of a permanent character, such as the Administrative Block, a print of such Report be sent to each of the Municipal Boroughs, and Urban and Rural District Councils in the Administrative County, with a request that they will furnish the Sub-Committee with their observations upon the conclusions of the County Medical Officer of Health, and that in forwarding such print the Clerk to the Council intimate to the Council of each such Borough and District that this Sub-Committee are of opinion that the scheme of sanatorium provision for the County suggested therein is necessary, and strongly recommends such Councils to approve the same.

At a Meeting of the Public Health Committee, held on July 14th, 1905, the above Resolution was referred back to the Sub-Committee for further consideration, and the County Medical Officer of Health was instructed to ascertain from the Committee of Management of the Sanatorium recently erected at Delamere by Mr. W. J. Crossley, whether they were prepared to receive into the Sanatorium patients from the Sanitary areas within the Administrative County of Chester, and, if so, at what cost; and such information when received was to be furnished by the County Medical Officer of Health to all the Sanitary Authorities in the Administrative County.

At a Meeting of the Isolation Hospitals Acts Sub-Committee, held on December 7th, 1905, the Clerk to the Council laid before the Sub-Committee the following extract from the Minutes of the Meeting of the Public Health Committee, held on October 27th, 1905.

The County Medical Officer of Health laid before the Committee a letter from the Secretary of the Manchester Hospital for Consumption and Diseases of the Throat and Chest, to the effect that the Committee are prepared to receive suitable cases at the Crossley Sanatorium from the Sanitary Areas within the Administrative County of Chester, at a weekly charge of 32/-; that they could not reserve beds for such cases, but would admit cases subject to there being beds available, and subject to the usual Regulations. By "suitable cases" are meant early cases of "phthisis." Mr. W. J. Crossley also informed the Committee that all the available

accommodation in the Sanatorium bearing his name was practically taken up. The following Resolutions were passed:—

RESOLVED—That having regard to Mr. Crossley's statement, the Isolation Hospitals Sub-Committee be requested to further consider the question of the provision of a "Sanatorium or Sanatoria" for the County.

RESOLVED—That a copy of the Report of the County Medical Officer of Health be sent to each of the Municipal Boroughs and Urban and Rural District Councils in the Administrative County, with a request that they will furnish the Sub-Committee with their observations upon the conclusions of the County Medical Officer of Health as appearing in such Report, and in forwarding the same the Clerk to the Council shall intimate to the Council of each such Borough and District that the Sub-Committee is of opinion that some such scheme as the one indicated in the Report is necessary.

At a Meeting of the Isolation Hospitals Acts Sub-Committee, held on October 4th, 1906, the Clerk to the Council laid before the Sub-Committee the observations of the following Municipal Boroughs and Urban and Rural District Councils, upon the conclusions of the County Medical Officer of Health, as to the provision of a Consumptive Sanatorium for the County as contained in the Report submitted by him to the last Meeting of the Sub-Committee, and prints of which have been sent to them.

After considering these the Sub-Committee

RESOLVED—That the further consideration of the provision of a Consumptive Sanatorium for the County be adjourned, and that the Clerk to the Council press those Sanitary Authorities from whom replies have not been received to favour the Sub-Committee with their views upon the proposal.

At a Meeting of the Public Health Committee, held on October 19th, 1906, the Report of the above Meeting of the Isolation Hospitals Acts Sub-Committee was received and adopted.

On July 12th, 1907, at a Meeting of the Public Health Committee, it was

RESOLVED—That the Isolation Hospitals Acts Sub-Committee report to the next Meeting of the Committee definitely upon the question of the provision of Consumptive Sanatoria for the County.

On October 11th, 1907, there was a Meeting of the Isolation Hospitals Acts Sub-Committee at Crewe. At this Meeting the Sub-Committee further considered the question of the provision of Consumptive Sanatoria for the County, and the following Resolution was passed:—

RESOLVED—That in the opinion of this Sub-Committee a Sanatorium for the treatment of Pulmonary Tuberculosis should be provided for the County, and that the County Council be recommended to take the steps necessary for the constitution of a Joint Hospital Committee under the Isolation Hospitals Acts, to provide such accommodation for a Hospital District comprising the several Sanitary Districts of the Administrative County, including (subject to their consent) the Municipal Boroughs therein.

At the same Meeting of this Sub-Committee, Dr. Hewitt, on behalf of a gentleman who for the present desired to be anonymous, offered to the County Council, free of cost, Oakwood Hall, situate at Romiley, and 44 acres of land adjoining thereto, as a Sanatorium for the treatment of Pulmonary Tuberculosis. The County Medical Officer of Health, who had with Dr. Hewitt, made a visit of inspection to this property, submitted a brief Report on the house and land stating, that in his opinion they were exceptionally well suited for the purpose suggested. The County Architect also submitted a Report saying, that he had also inspected the estate, and that in his opinion it was a “splendid site for the purpose.”

After the consideration of these Reports the Sub-Committee

RESOLVED—That the further consideration of the recommendation to be made to the County Council thereon be adjourned to a Meeting of the Sub-Committee to be held at Oakwood Hall, on Monday, the 21st inst., at 3 o'clock in the afternoon, and that in the meantime the County

Medical Officer of Health and County Architect report further as to the adaptation of the premises for the purpose of a Sanatorium, and as to the probable cost thereof.

On October 21st, there was a Meeting of the Isolation Hospitals Acts Sub-Committee at Oakwood Hall, when those present inspected the Hall and Grounds. The County Architect submitted a Report showing how the same might be adapted as a Sanatorium for the treatment of Pulmonary Tuberculosis, but the Committee expressed no opinion thereon.

Dr. Hewitt then read to the Committee a letter from Dr. Meredith Young, Medical Officer of Health for the County Borough of Stockport, who had recently inspected Oakwood Hall and its surroundings. He reported favorably as to its suitability as a Sanatorium.

The following Resolution was passed:—

RESOLVED—That the further consideration of the recommendation to be made to the County Council thereon, be adjourned to a Meeting of the Sub-Committee to be held at Crewe, on Friday, the 25th inst., at 10-45 a.m., and that in the meantime the County Medical Officer of Health ascertain from certain gentlemen whose names were given him by the Sub-Committee their opinion as to the suitability or otherwise of Oakwood Hall for the purpose, and, particularly as to the prevalence (if any) of fogs, and generally as to the climate of the place.

At the adjourned Meeting of the Isolation Hospitals Acts Sub-Committee, held on the 25th October, at Crewe, Dr. Hewitt read the following letter from the Solicitor to the Donor of Oakwood Hall, viz.:—

9, Warren Street, Stockport,
23rd October, 1907.

Dear Sir,

In reply to the question addressed to you by the Clerk to the Cheshire County Council, I am instructed to inform you that in the event of the Oakwood Hall Estate being found to be unsuitable for the treatment of Tuberculous cases after a *bona fide* trial, the Council will be quite at liberty to dispose of it, and to apply the proceeds to the acquisition of another site for a Sanatorium. My Client's object is to see established

a Sanatorium for Cheshire on the lines of Dr. Vacher's Report in 1904. He makes this stipulation that the beds shall not be wholly monopolised by well-to-do paying patients, but that a proportion of the beds should be reserved for the poor, and in this, he wishes to have included a limited number of patients recommended by the Stockport Infirmary, which does so much for the County of Chester.

Yours truly,

(Signed) HARRY NEWTON.

Dr. Hewitt,
Grove Mount,
Davenham, Cheshire.

Dr. Hewitt informed the Sub-Committee that with reference to the last paragraph of this letter, he had received a communication from the Donor, stating that it was only to be considered as a wish and was not intended in any way as a condition attached to the gift.

The County Medical Officer of Health reported the result of the local enquiries in accordance with the instructions of the Sub-Committee respecting the suitability of Oakwood Hall as a Consumptive Sanatorium and as to the climate of the place. It was then:—

RESOLVED—That as in the opinion of the Sub-Committee Oakwood Hall would be a suitable site for the purpose of a Sanatorium for the treatment of Pulmonary Tuberculosis, and as they further consider that no objection can be taken thereto from a climatic point of view the County Council be recommended to gratefully accept on behalf of the Hospital Committee, if and when constituted, the generous offer that has been made of a transfer of Oakwood Hall and land adjoining, as a Sanatorium for the treatment of persons suffering from Pulmonary Tuberculosis.

At a Meeting of the Public Health Committee, on the same day, the two following Resolutions were passed:—

RESOLVED—That such Reports be adopted, and that the special thanks of the County Council be tendered to the Donor of Oakwood Hall for his generous gift of the same.

RESOLVED—That the County Architect ascertain, prior to the Meeting of the Council, the subsoil of the Oakwood Hall Estate.

At a Meeting of the County Council held at Chester Castle, on the 14th day of November, 1907, the Resolution of the Isolation Hospitals Acts Sub-Committee, held on the 25th October, 1907, and adopted at the Meeting of the Public Health Committee held the same day, recommending the County Council to accept the generous offer of Oakwood Hall as a Sanatorium for Consumptives was not adopted.

At a Meeting of the Public Health Committee, held at Crewe, on January 24th, 1908, the Resolution to accept the gift of Oakwood Hall and Estate for a Consumptive Sanatorium, which had not been adopted by the County Council at its Meeting was reconsidered. The following Resolution was passed:—

RESOLVED—That as the Committee understand that the offer of Oakwood Hall for the purpose of a Consumptive Sanatorium is now withdrawn, the Committee desire to express their thanks to the Owner for his generous offer and regret they could not accept it for the purpose named.

The Committee considered as to the appointment of a Committee to hold an Inquiry as to the necessity for the establishment of a Hospital for the treatment of Pulmonary Tuberculosis, and as to the proper site for such Hospital, and the District for which it is to be established, in accordance with the Resolution passed by the Isolation Hospitals Acts Sub-Committee, and adopted by the Public Health Committee and County Council at the last Meeting.

RESOLVED—That the following Committee be appointed to hold such Inquiry, viz.:—

Colonel George Dixon, Chairman of the Council.
Thos. Beeley, Esq., Vice-Chairman of the Council.
Dr. David Basil Hewitt, Chairman of the Public Health Committee.

John James Evans, Esq., Deputy Chairman of the Public Health Committee.

J. Atkinson, Esq.	J. Oldershaw, Esq.
J. Cooke, Esq.	W. A. Renshaw, Esq.
T. Hodgetts Gordon, Esq.	R. T. Richardson, Esq.
Wm. Hodgson, Esq.	J. W. Smith, Esq.
Wm. McNeill, Esq.	A. Godson, Esq.
C. S. Pain, Esq.	

and that the Clerk to the Council be authorised to give notice of the time and place of the holding of such Inquiry

in such manner as he may think best adapted to inform any persons interested therein.

A letter from Messrs. John Alker & Co., Land Agents, Manchester, offering an Estate, containing 108 acres of land, situate at Knutsford, as the site of a Consumptive Sanatorium, was laid before the Committee.

RESOLVED—That such offer be referred to the last-mentioned Committee for consideration at the Inquiry to be held by them.

On March 30th, 1908, an Inquiry was accordingly held at Crewe, into the necessity for the establishment of a hospital for the treatment of Pulmonary Tuberculosis, and as to the proper site for the same, and the District or Districts for which such hospital should be established.

The Clerk to the Council submitted a copy of the notice of the Inquiry, and stated that the same had been advertised twice in the County Newspapers, and that a copy thereof had been sent to all the Municipal Boroughs and Urban and Rural Districts and Parish Councils in the County, and to the Chairmen of all the Rural Parishes in the County not having Parish Councils.

The following Municipal Boroughs, Urban and Rural District Councils and Parish Councils and Parish Meetings were represented at the Inquiry, viz. :—

BOROUGHs —

Crewe

Macclesfield.

URBAN DISTRICTS—

Alsager.

Lymm.

Altrincham.

Middlewich.

Ashton-upon-Mersey.

Neston and Parkgate.

Bebington Lower.

Northwich.

Bowdon.

Sale.

Compstall.

Sandbach.

Hale.

Tarporley.

Hoole.

Wallasey.

Hoyle and West Kirby.

Winsford.

RURAL DISTRICTS—

Bucklow.

Northwich.

Macclesfield.

Tarvin.

Nantwich.

Wirral.

BOARD OF GUARDIANS—

Wirral.

PARISH COUNCILS—

Davenham.

Leftwich.

Heswall-cum-Oldfield.

PARISH MEETINGS—

Bollington.

Wimboldsley.

Stanthorne.

The Clerk to the Council read a Statement prepared by the County Medical Officer of Health, giving a resumé of the action which had been taken by the County Council in connection with the provision of a Consumptive Sanatorium or Sanatoria, and as to the necessity for the provision of such accommodation. At the conclusion of this Statement, the County Medical Officer expressed the opinion that there were doubtless many suitable places in Cheshire for a Consumptive Sanatorium, and that probably the best would be a well chosen site, on the higher ground at Heswall, or one in the township of Kingswood.

The Statement concluded as follows :—

“The strongest evidence available as to the necessity of a Sanatorium for consumptives for the use of persons unable to pay for their lodging and maintenance, while under treatment, is found in the large number of deaths from phthisis certified every year. The record for 1907 is not yet completed, but the record for years immediately preceding is as follows :—In 1906 there were 573 deaths from phthisis, in 1905 there were 480 deaths from phthisis, in 1904 there were 542 deaths from phthisis, in 1903 there were 530 deaths from phthisis, in 1902 there were 589 deaths from phthisis, in 1901 there were 614 deaths from phthisis, in 1900 there were 598 deaths from phthisis, in 1899 there were 646 deaths from phthisis, in 1898 there were 683 deaths from phthisis, and in 1897 there were 638 deaths from phthisis.”

A copy of this Statement was handed to each of the Representatives in attendance, and a general discussion took place thereon, the County Medical Officer replying to the points raised by the several speakers. It appeared that many of the Representatives were opposed to the establishment of a hospital for the treatment of pulmonary tuberculosis, the main reason urged being that of expense, whilst the Representatives of some few Councils expressed the opinion that the establishment of such a hospital was necessary if the spread of the disease was to be arrested.

The Chairman then invited the Representatives in attendance to state whether their respective Councils were in favor of or against the proposal, at the same time stating that he did not think that the County Council would be disposed to include in any hospital District that might be created, any Sanitary Area the Council of which objected to being included therein, and which invitation produced the following result :—

IN FAVOUR.

BOROUGHS—	None.
URBAN DISTRICTS—	Bebington Higher. Bebington Lower. Bowdon. Hale. Lymm. Neston and Parkgate.
RURAL DISTRICT—	Nantwich.

AGAINST.

BOROUGHS—	None.
URBAN DISTRICTS—	Alsager. Altrincham. Ashton-upon-Mersey. Hoole. Middlewich. Northwich. Sale. Sandbach. Tarporey. Wallasey. Winsford.
RURAL DISTRICTS—	Macclesfield. Tarvin.

NEUTRAL, OR WITHOUT INSTRUCTIONS.

URBAN DISTRICTS—	Compstall. Hoylake and West Kirby.
RURAL DISTRICTS—	Bucklow. Northwich. Wirral.

COUNCILS NOT REPRESENTED AT INQUIRY.

URBAN DISTRICTS--	Alderley Edge.
	Bollington.
	Bredbury and Romiley.
	Bromborough.
	Buglawton.
	Cheadle and Gatley.
	Ellesmere Port and Whitby.
	Handforth.
	Hazel Grove and Bramhall.
	Hollingworth.
	Knutsford.
	Marple.
	Mottram-in-Longdendale.
	Nantwich.
	Runcorn.
	Wilmslow.
	Yeardsley-cum-Whaley.
RURAL DISTRICTS—	Chester.
	Congleton.
	Disley.
	Malpas.
	Runcorn.
	Tintwistle.

The Chairman, in closing the Inquiry, stated that the Committee would give careful consideration to the views expressed by the Representatives in attendance, and in due course report thereon with their recommendations to the County Council.

The Committee subsequently adjourned the consideration of their recommendations to a future meeting. At this meeting, which was held on April 9th, 1908, the Clerk submitted the following particulars as to the Population and Rateable Value of the Sanitary Districts in favour of or against the proposal, neutral, and not represented :—

				Population Census, 1901.		Assessable Value. £
IN FAVOUR—						
Boroughs	...	none				
Urban Districts	...	6	...	26,149	...	190,442
Rural Districts	...	1	...	23,197	...	192,808
				<hr/>		<hr/>
Totals	...			49,346	...	383,250
				<hr/>		<hr/>

AGAINST—

Boroughs	...	none			
Urban Districts	...	11	...	136,863	.. 786,180
Rural Districts	...	2	..	28,389	... 220,281
Totals	...			165,252	... 1,006,461

NEUTRAL, OR WITHOUT

INSTRUCTIONS—

Urban Districts	...	2	...	11,786	... 99,200
Rural Districts	...	3	...	55,980	... 471,133
Totals	...			67,766	... 570,333

COUNCILS NOT REPRESENTED—

Urban Districts	...	17	...	88,875	... 482,344
Rural Districts	...	6	...	55,873	... 436,612
Totals	...			144,748	... 918,956

The Clerk to the Council informed the Sub-Committee that subsequent to the Inquiry the Town Council of Dukinfield had passed a resolution objecting to the Borough being included in a Hospital District under the Isolation Hospitals Acts for the purpose of joining in the erection of a Consumptive Hospital, or for any other purpose, also that the Wirral Board of Guardians had passed a resolution against their Area being included in a Hospital District.

The Sub-Committee after having given very careful consideration to the foregoing Report of the Inquiry held on the 30th March last,

RESOLVED—That whilst the Committee consider that ample provision should be made for the treatment of persons suffering from pulmonary tuberculosis, and who are not in a position themselves to pay for such treatment, they do not see their way, having regard to the strong objection raised at the Inquiry by most of the Representatives of the Urban and Rural District Councils in attendance, to recommend at the present time an Order being made for the creation of a Hospital District consisting of the Administrative County or any portion thereof, and the Sub-Committee accordingly recommend that the question of the creation of a Hospital District or Districts be adjourned *sine die*.

As, however, the Sub-Committee note with great satisfaction the statement made at the Inquiry that provision has recently been made by the Wirral Board of Guardians for the treatment of a certain number of tuberculous cases at the Clatterbridge Workhouse by the erection of a separate block, they earnestly recommend the other Boards of Guardians to make similar provision in their respective Unions.

At the meeting of the Public Health Committee held on May 1st, 1908, the Report of the Consumptive Sanatorium Sub-Committee was adopted; and at the meeting of the County Council on May 21st, the Report of the Public Health Committee was adopted.

Other Tubercular Diseases is a heading which appeared in the new forms which were issued by the Local Government Board for the mortality returns of 1900, 1901, 1902, 1903, 1904, 1905, 1906 and 1907. There was no heading corresponding to it previously in use. During 1907 the deaths of 302 persons were ascribed to other tubercular diseases, viz., 92 in the Municipal Boroughs, 160 in the other Urban Districts, and 50 in the Rural Districts.

Of the 302 who died, 90 were infants under a year old, 85 were 1 year old and under 5 years, 55 were 5 years old and under 15, 26 were between 15 and 25, 41 were between 25 and 65, and 5 were upwards of 65 years old.

The death-rate in the County from phthisis being 0.80, and the death-rate from other tubercular diseases being 0.46, the whole tubercular death-rate per 1000 living was 1.2 in 1907. In 1906 the death-rate from tubercular disease other than phthisis was 0.47, and the death-rate from all tubercular diseases was 1.36 per 1000 living. In 1905 the death-rate from tubercular disease other than phthisis was 0.47, and the death-rate from all tubercular diseases was 1.23. In 1904 the death-rate from tubercular diseases other than phthisis was 0.56, and the death-rate from all tubercular diseases was 1.45. In 1903 the death-rate from tubercular diseases other than phthisis was 0.42, and the death-rate from all tubercular diseases was 1.39. In 1902 the death-rate from tubercular diseases other than phthisis was 0.42, and the death-rate from all tubercular diseases was 1.39. In 1901 the death-rate from tubercular diseases other than phthisis was 0.52, and the death-rate from all tubercular diseases was 1.54.

Tuberculosis in Cattle.—The cities of Liverpool and Manchester, and other towns a little to the north of Cheshire,

have now the right to send Veterinary Surgeons to inspect cattle belonging to dairy farms supplying the said cities and towns with milk. As a consequence, letters are received, from time to time, intimating to the County Authority that cows with tuberculous udders have been found on certain farms, and steps are taken to see that the infected cows are removed from dairy stock and "dried off," and that they are not sold or slaughtered without previous notice. Indeed, all practicable steps are taken to see that tuberculous meat or milk is not sold or offered for sale in the County.

Cancer.—The term "Cancer, malignant disease," appears in the new forms issued by the Local Government Board for use in 1900, 1901, 1902, 1903, 1904, 1905, 1906 and 1907. There was no term corresponding to this in previous use. During 1907 the deaths of 548 persons came under this heading, viz. :—152 in the Municipal Boroughs, 243 in the other Urban Districts, and 153 in the Rural Districts. The cancer death-rate in 1907 was therefore 0.84 per 1000 living. The cancer death-rate in 1906 was 0.83 per 1000 living. In the Municipal Boroughs this death-rate was 0.82, in the other Urban Districts it was 0.80, and in the Rural Districts it was 0.98.

In 1907 only 8 persons who died of cancer were under 5 years of age, 4 were between 5 and 15 years old, 2 were between the ages of 15 and 25, 334 between 25 and 65, and 200 were upwards of 65 years old.

In the Borough of Congleton this death-rate has been exceptionally high for years. In 1907 it was 1.2, in 1906 and 1905 it was 1.21, in 1904 it was 1.3, in 1903 it was 1.21, in 1902 and 1901 it was 1.48. In the Borough of Macclesfield the rate in 1907 was 1.1 ; in 1906, 1.04 ; in 1905, 1.52 ; in 1904, 1.07. In Nantwich Urban District the rate in 1907 was 0.4 ; in 1906, 1.52. In Lymm in 1907 it was 1.4 ; in 1906, 1.22 ; and in 1905, 1.83.

Any contribution to the better understanding of so terrible a disease should be welcomed, and most Medical Officers of Health could contribute some facts and observations. There are many points as regards cancer which require elucidating. Among the questions pressing to be answered are the following :—Is cancer a parasitic disease ? Is it infective ? Does it haunt houses and places ? Is it communicated by domestic animals ? Is it associated with the ingestion of any food, animal or vegetable ? Is the disease increasing ?

Bronchitis, Pneumonia, &c.—In the old mortality-forms, made use of by Medical Officers of Health, there used to be a column headed “Bronchitis, Pneumonia, and Pleurisy.” In the new forms issued by the Local Government Board, deaths from bronchitis, pneumonia, pleurisy, and other diseases of the respiratory organs, have to be entered in four separate places. Grouping them together, it appears that in 1907 there were 1485 deaths due to these diseases, viz.:—527 in the Municipal Boroughs, 631 in the other Urban Districts, and 327 in the Rural Districts. The death-rate for the Administrative County was 2.2 per 1000 living. In the Municipal Boroughs this death-rate was 0.13; in the other Urban Districts it was 2.7; and in the Rural Districts it was 1.8. This shows that the mortality was relatively higher in the Municipal Boroughs than in the other Urban Districts, and relatively higher in the towns than in the Rural Districts. During 1906 this death-rate was 2.12 in the County, 1.76 in the Municipal Boroughs, 1.99 in the other Urban Districts, and 1.68 in the Rural Districts.

During 1905 this death-rate was 2.26 in the County, 2.87 in the Municipal Boroughs, 2.08 in the other Urban Districts, and 1.96 in the Rural Districts. During 1904 this death-rate was 2.52 in the County, being 3.12 in the Municipal Boroughs, 2.49 in the other Urban Districts, and 1.95 in the Rural Districts. During 1903 this death-rate was 2.22 for the County, being 2.81 in the Municipal Boroughs, 2.13 in the other Urban Districts, and 1.75 in the Rural Districts. During 1902 this death-rate was 2.58 for the County, being 3.14 in the Municipal Boroughs, 2.53 in the other Urban Districts, and 2.08 in the Rural Districts. During 1901 this death-rate was 2.54 for the County, being 3.57 in the Municipal Boroughs, 2.30 in the other Urban Districts, and 1.91 in the Rural Districts. During 1900 this death-rate was 2.74 for the County, being 3.16 in the Municipal Boroughs, 2.77 in the other Urban Districts, and 2.33 in the Rural Districts. The figures for 1900 and more recent years, as they include deaths from “other diseases of the respiratory organs,” are not quite comparable with those of recent years.

Alcoholism.—The term “Alcoholism, Cirrhosis of Liver” appears in the new forms issued by the Local Government Board for use in 1900, 1901, 1902, 1903, 1904, 1905, 1906 and 1907, and there was nothing corresponding to it in previous use. During 1907 the deaths of 82 persons came under this heading, viz.:—22 in the Municipal Boroughs, 41 in the other Urban Districts, and 19 in the Rural Districts. Thus the alcoholism death-rate in the County in 1907 was 0.12 per 1000 living. In 1906 this death-rate was 0.14 per 1000 living. In 1905 this death-rate was

0.16, in 1904 this death-rate was 0.17, in 1903 this death-rate was 0.18, in 1902 this death-rate was 0.22, in 1901 this death-rate was 0.18. This is certainly a bad record, the deaths of well over 100 persons in the County being ascribed to alcoholism every year. Unfortunately, alcoholism is so largely concerned in causing disease and premature death, directly or indirectly, that the number of times in which it is certified the cause of death is of little significance.

Alcoholism, as a cause of death, is, however, far less important than as a cause of ill-health, incapacity for employment and degeneracy. In the Report of the Inter-Departmental Committee on Physical Deterioration, dated July 20th, 1904, the causes of degeneracy are set forth, and among these alcoholism is given a foremost place.

“Next to the urbanisation of the people,” says the Report, “and intimately associated with it as the outcome of many of the conditions it creates, the question of drink occupies a prominent place among the causes of degeneration. The close connection between a craving for drink and bad housing, bad feeding, a polluted and depressing atmosphere, long hours of work in overheated and often ill-ventilated rooms, only relieved by the excitement of town life, is too self-evident to need demonstration, nor unfortunately is the extent of the evil more open to dispute.”

This Report goes on to say that not only is poverty the result of drink, but it becomes an active agent in promoting it. People turn to drink to blunt their sensibility to squalor, and it re-acts in deadening all desire for improvement. As to whether drunkenness is on the increase it is not thus easy to speak. Still in one respect there is an admitted increase. The tendency of the evidence given to the Committee was to show that drinking habits among the women of the working classes are certainly growing, with consequences exceedingly prejudicial to the care of the offspring, not to speak of the possibility of children being born permanently disabled.

In conclusion, the Committee believe that their labours will result in giving matter for reflection to those who realise the importance of evidence towards the determination of issues of such uncertainty and complexity, and that these persons will await the necessary steps being taken to secure that well-sifted and accurate information, without which it is impossible to arrive at any conclusion of value to the general problem.

Premature Birth is another term which appears in the new form issued by the Local Government Board for use in 1900,

1901, 1902, 1903, 1904, 1905, 1906, and 1907. During 1907, the deaths of 294 infants were ascribed to premature birth.

In 1906 the deaths of 273 infants were ascribed to premature birth, the death-rate being 0.42 per 1,000 living. During 1905 the deaths of 294 infants were ascribed to premature birth. During 1904 the deaths of 323 infants were ascribed to premature birth. During 1903 the deaths of 293 infants were ascribed to premature birth. During 1902 the deaths of 300 infants were ascribed to premature birth. During 1901 the deaths of 306 infants were ascribed to premature birth, and during 1900 the deaths of 273 infants were ascribed to premature birth.

Diseases and Accidents of Parturition.—This is another term which appears in the new forms issued for use in 1900, 1901, 1902, 1903, 1904, 1905, 1906, and 1907. During 1907 there were 66 deaths ascribed to diseases and accidents of parturition. In 1906 the deaths of 56 persons came under this heading. As the number of births during the year was 15,997 in 1906, it would appear that 3.50 in each 1,000 child births were fatal to the mothers in addition to those from puerperal fever. Calculated in the same way, 3.67 in each 1,000 child-births in 1905 were fatal to the mothers, 3.42 in each 1,000 child births in 1904 were fatal to the mothers, 3.74 in each 1,000 child-births in 1903 were fatal to the mothers, 4.22 in each 1,000 child-births in 1902 were fatal to the mothers, 4.31 in each 1,000 child-births in 1901 were fatal to the mothers and 3.73 in each 1,000 child-births in 1900 were fatal to the mothers. Doubtless the proportion is actually larger than this.

Heart Diseases.—In the Municipal Boroughs 310 deaths were due to heart diseases (a death-rate of 1.0). In the other Urban Districts 481 deaths occurred (equal to a rate of 1.5). In the Rural Districts there were 16 deaths from heart diseases (equal to a death-rate of 0.09). There were 1028 deaths from heart diseases in the whole County during 1907, being equal to a death-rate of 1.8. In 1906 this death-rate was the same as in 1905, 1.37. This death-rate was 1.53 in 1904, it was 1.34 in 1903, 1.37 in 1902, 1.44 in 1901, 1.45 in 1900, 1.36 in 1899, 1.37 in 1898, 1.41 in 1897, 1.39 in 1896, 1.45 in 1895, 1.32 in 1894, 1.37 in 1893, and 1.50 in 1892.

Accidents.—This is yet another term which appears in the new forms issued by the Local Government Board for use in 1900, 1901, 1902, 1903, 1904, 1905 and 1906, and during 1907

the deaths of 269 persons came under this heading. Thus the death-rate from accidents in 1907 was 2.4 per 1,000 living. In 1906 this death-rate was equal to 0.41 per 1000 living. In 1905 there were 247 deaths certified as due to accidents (0.39 per 1000 living). In 1904 there were 258 deaths ascribed to accidents (0.42 per 1,000 living), in 1903 there were 214 deaths ascribed to accidents (0.35 per 1,000 living), in 1902 there were 283 deaths ascribed to accidents (0.47 per 1,000 living), in 1901 there were 273 deaths ascribed to accidents (0.45 per 1,000 living), and in 1900 there were 270 deaths ascribed to accidents (0.43 per 1,000 living).

Suicides.—This term also appears in the new forms issued by the Local Government Board for use in 1900, 1901, 1902, 1903, 1904, 1905, 1906, and during 1907 the deaths of 66 persons came under this heading. This is equal to a rate of 0.19 per 1,000 living. During 1906 there were 51 cases of suicide, equal to 0.08 per 1,000 living. During 1905 the deaths of 69 persons—0.11 per 1,000 living. During 1904 the deaths of 85 persons came under this heading—0.14 per 1,000 living. During 1903 the deaths of 58 persons came under this heading, that is 0.09 per 1,000 living. During 1902 the deaths of 73 persons came under this heading, that is 0.12 per 1,000 living. During 1901 the deaths of 54 persons came under this heading—that is 0.09 per 1,000 living. During 1900 the deaths of 62 persons came under this heading—that is 0.10 per 1,000 living.

Unsatisfactory Certificates of Deaths.—Many Medical Officers of Health find difficulty in classifying the causes of death in the Registrar's returns, owing to the number of causes certified in some instances. Many examples of this might be given, but two will suffice; a death of a child which took place in Runcorn Rural District was certified as due to measles, scarlatina, diphtheria, pneumonia; and a death of an adult which took place in Bucklow Rural District was certified as due to Bright's disease, influenza, pneumonia, and heart failure. Occasionally, also, the cause of death assigned is too vague, e.g., "tumour," "coma," "apnœa."

Rabies.—There was no outbreak of rabies during 1907.

Anthrax.—In the first quarter of 1907 there were 8 outbreaks of this disease, in the course of which 4 cattle, 7 sheep, and 1 pig were attacked and died. In the second quarter there were 11 outbreaks, in the course of which 9 cattle and 2 sheep were attacked and died. In the third quarter there were 8 outbreaks, in the course of which 7 cattle, 1 sheep, 1 pig, and 1 horse

were attacked and died. In the fourth quarter there were 14 outbreaks, in the course of which 13 cattle and 1 sheep were attacked and died.

Infected carcasses were promptly cremated, and the premises cleansed and disinfected as far as possible, under the direction of the police.

No case of anthrax was reported in a human being during 1907.

Glanders and Farcy.—During 1907 there was no outbreak of this disease reported. In Nantwich Rural District it is specially mentioned that the Circular of the Board of Agriculture has been placed in the hands of all knackers and occupants of registered slaughter-houses.

The Infectious Diseases (Notification) Act, 1889.—This Act came into force in London as soon as it became law. As regards the rest of the country, it was an “adoptive” Act, by vote of the Local Authorities, after public notice had been given. The obligation to notify each case of infectious disease rests on the householder and Medical Practitioner in attendance. Generally, only the Practitioner notifies, but the fact of the householder being also responsible prevents him from evading notification by not calling in a doctor. The infectious diseases to which the Act applies are small-pox, cholera, diphtheria, membranous croup, erysipelas, the disease known as scarlatina, or scarlet fever, and the fevers known by any of the following names:—Typhus, typhoid, enteric, relapsing, continued, or puerperal.* Also the Local Authority may, by resolution, order any infectious disease, either temporarily or permanently, to be added to this list; but such order has no validity until approved by the Local Government Board.

Measles was added to the list of notifiable diseases by the Alderley Edge Urban District Council in 1893.

In October, 1897, the Urban District Council of Ashton-on-Mersey, by resolution, ordered that measles, German measles, and whooping-cough, be added to the list of notifiable diseases for that District. This order has been in force since November 6th, 1897. Towards the close of 1899 Lymm Urban District Council decided to make measles and German measles notifiable.

* Plague has lately been added to this list.

Wilmslow Urban District Council has since ordered that measles should be added to the list of notifiable diseases for that District.

Chicken-pox was made notifiable in Lymm early in 1902, and remains notifiable.

In February, 1903, the Town Council of Hyde, by resolution, ordered that chicken-pox be added to the list of notifiable diseases for that Borough.

Chicken-pox has been notifiable in Runcorn Rural District since 1902.

The Infectious Disease (Notification) Extension Act.—This short Act extends to the whole of England and Wales, as from January 1st, 1900, and without previous adoption by those Local Authorities that have not already adopted compulsory notification, the provisions of the Infectious Disease (Notification) Act, 1889. Prior to the passing of this Act it was found that, either by the adoption of the Act of 1889, or under separate Local Acts, the notification of infectious diseases was compulsory in Districts having an aggregate population of upwards of 28,000,000 out of 30,000,000 inhabitants in England and Wales, and that the system had been of the greatest assistance to Sanitary authorities and their Officers in dealing with outbreaks of infectious diseases. In those towns where notification is compulsory under Local Acts, the provisions of these Local Acts (with the single exception of that at Huddersfield) will be superseded by those of the general Act of 1889.

Isolation Hospitals.—The hospital accommodation in the Administrative County for isolation and treatment of infectious diseases is as follows :—

Altrincham Urban District—Lloyd's Fever Hospital, and a temporary hospital for small-pox.

Bucklow Rural District and Alderley Edge, Ashton-upon-Mersey, Hale, Knutsford, Sale and Wilmslow Urban Districts—45 beds in the Manchester Corporation Hospitals, viz. : Baguley and Monsall Hospitals for infectious diseases, other than small-pox, and 10 beds for small-pox.

Congleton Rural District, Congleton Municipal Borough, and Alsager, Buglawton, and Sandbach Urban Districts—A temporary hospital for small-pox at Arclid.

Crewe Municipal Borough—Crewe Isolation Hospital, to which a pavilion for diphtheria has lately been added, and a small farm house and corrugated iron building for small-pox cases.

Hyde Municipal Borough—Hyde Isolation Hospital, completed in 1905, and a temporary hospital for small-pox.

Hollingworth and Mottram Urban Districts and Tintwistle Rural District—A temporary hospital.

Lymm Urban District—A new hospital, erected in 1904.

Macclesfield Municipal Borough—A temporary hospital and another for small-pox. Two cottages were purchased in 1904 for isolating small-pox “contacts” and “suspects.”

Macclesfield Rural District—A temporary hospital for small-pox. Arrangements have been made for the use of 14 beds in Macclesfield Borough Isolation Hospital.

Nantwich Rural District and Nantwich Urban District—A new hospital was completed at the end of 1905, but not opened till October 11th, 1906. It provides 20 beds for patients, and is situated at Worleston. There is also a temporary hospital for small-pox at Ravensmoor.

Northwich Rural District, and Northwich, Winsford, and Middlewich Urban Districts—A new hospital was completed in 1905. Northwich Rural District some time since provided a temporary hospital at Marbury, which is now used for small-pox, since other diseases are isolated at Davenham Hospital. Northwich Urban District and Winsford Urban District have each provided a small temporary hospital.

Runcorn Rural District—A new isolation hospital was completed in 1905. There is also a hospital for small-pox.

Runcorn Urban District—Runcorn Isolation Hospital.

Wallasey Urban District—Wallasey Isolation Hospital, lately enlarged, and temporary hospital for small-pox.

Wirral Rural District and Higher Bebington, Lower Bebington, Bromborough, Ellesmere Port and Whitby,

Neston and Parkgate, Hoylake and West Kirby Urban Districts—Spital Isolation Hospital, to which a new pavilion has lately been added, and a hospital at Greasby used for small-pox.

Some few Districts have also made arrangements to have infectious cases admitted to the Isolation Hospital at Baguley or elsewhere.

The Districts which provided new permanent hospitals in 1905, as just mentioned, were (1) the Borough of Hyde, (2) Northwich Rural and Northwich, Winsford and Middlewich Urban Joint Hospital District, (3) Nantwich Urban and Rural Joint Hospital Board, and (4) Runcorn Rural District.

The Borough of Congleton is still entirely without any accommodation for infectious patients other than small-pox; the Corporation are endeavouring to make provision jointly with neighbouring Authorities, but in their efforts to carry out the scheme causes of delay have arisen. Some delay has been occasioned owing to one of the combining Authorities belonging to another County. During 1907 the building of a joint hospital was begun, and good progress has been since made.

At Crewe, during 1907, there were admitted from the Borough into hospital 314 cases of scarlet fever, 19 cases of diphtheria, 2 cases of enteric fever, and 1 of erysipelas.

The accommodation arranged for by the Corporation of Dukinfield consists of only two beds for small-pox and four beds for cases other than small-pox, at the Hyde Hospitals, for which there is an annual sum paid. In addition there is a charge of £2 2s. per case for medical attendance in hospital, and 1s. 3d. a day for food. Where more than four beds are occupied, the additional charge is at the rate of £3 3s. per case for medical attendance in hospital. Further accommodation should be arranged for.

At Hyde there were 267 cases belonging to the Borough isolated in hospital, of which 258 were cases of scarlet fever, and 9 were cases of enteric fever. There were also 46 cases of scarlet fever and 2 cases of enteric fever admitted to Hyde Hospital from neighbouring Districts. The new hospital, which was commenced early in 1903, was not opened until June, 1905. It provides accommodation for 32 scarlet fever cases, 10 enteric fever cases, and 10 diphtheria cases. It has also an observation block for 2 cases, the nature of which is uncertain.

In Macclesfield there were 26 cases of diphtheria and 48 cases of scarlet fever admitted to the hospital from the Borough. There were also two cases of scarlet fever received from Macclesfield Rural District.

The Borough of Stalybridge has a small-pox hospital situated at Hartshead, and managed by the Ashton-under-Lyne and District Joint Small-pox Hospital Board, on which Stalybridge is represented by two members.

Alsager is without accommodation for the isolation of infectious disease other than small-pox, but during 1903 it joined the Rural District of Congleton, the Borough of Congleton, and the Urban Districts of Sandbach, Buglawton, and Biddulph, in applying to the Local Government Board to issue a Provisional Order forming these Districts into a Joint Hospital District. The Inquiry with reference to this application was held at Congleton Town Hall, on January 22nd, 1904. These Districts are still without accommodation for cases other than small-pox, but the Joint Board has been formed, a suitable site chosen, and good progress was made with the erection of a new hospital during 1907.

Bollington Urban District Council have now no prospect of getting a hospital for nothing, and will have to make such provision as seems practicable. They have come to an arrangement with the Corporation of Macclesfield under which they have the right to send into the Borough Hospital, at any one time, four cases of infectious disease for isolation and treatment there. The terms on which the arrangement is fixed are as before stated, viz. :
 (1)—The annual payment by the Urban District Council of £30 for the beds and £15 for the Medical Officer's Fees, together with
 (2)—The payment of £100 to the Borough Council in two yearly instalments of £50 each towards the cost of enlarging their present hospital.

Two beds for the treatment of small-pox patients are also kept for use at the Borough Small-pox Hospital on the same terms as before.

Bowdon Urban District Council, which used to make use of Lloyd's Fever Hospital, have arranged to send their infectious cases to the Sanatorium at Baguley. Five of the cases notified in 1907 were thus dealt with. Infectious cases which occur at Bredbury and Romiley may be sent to Hyde Hospital. Four beds are retained, and additional beds can be used when needed, provided there is room. The Urban District Council of Cheadle

and Gatley have arranged for 3 beds to be reserved for the use of their District at Baguley Sanatorium, and have joined Heaton Norris Urban District in building an iron hospital for small-pox (to contain 8 beds), on a site near the Cheadle Outfall Works. Compstall Urban District Council have arranged with the High Peak Hospital Committee to receive into their hospital infectious cases which require isolation. They have also arranged for the reception of a case from Compstall at Hyde Hospital. No arrangement has been made for the isolation in hospital of any infectious case which may arise in Handforth. The Urban District of Hazel Grove and Bramhall isolate small-pox cases at Whitehill Hospital, Stockport, and have arranged to have two beds in Hyde Hospital reserved for cases of infectious disease other than small-pox. The hospital which used to be available for small-pox cases from Mottram, Hollingworth and Tintwistle is now to be used only for cases other than small-pox. Mottram has made arrangements for the isolation of small-pox cases, but the other two Districts have not done so.

Cases belonging to Hoole are treated, by arrangement, in Chester Isolation Hospital. At Marple all cases of infectious disease (including small-pox) which need isolating, are dealt with by the Hyde Corporation.

The Joint Hospital Board, constituted for Nantwich Urban and Rural Districts, completed a hospital for infectious cases other than small-pox at the end of the year 1905, but, owing to delays in connection with the contract for furnishing, it was not opened till October 11th, 1906. During 1907, there was a severe epidemic of scarlet fever, which taxed the hospital to its utmost capacity, and many cases were refused admission for want of room. This hospital was erected on a convenient site at Worleston, which was approved by the Local Government Board, and purchased in 1902. During 1903, plans were prepared for a hospital to provide 16 beds for patients (about half the number proposed by the County Medical Officer), with an Administrative Block large enough to permit of the hospital being extended by building another Pavilion. These plans were forthwith sent to the Local Government Board, together with an application of the Nantwich Joint Hospital Board, for sanction to borrow £6,800 for building the hospital. The Official Inquiry was held on December 3rd, 1903, and the plans were approved, subject to a few slight alterations in matters of detail, and the provision of an Observation Block, to contain not less than 4 beds. The Inspector said that, if the Joint Hospital Board agreed to provide an Observation Block, an application should be sent in forthwith for sanction to borrow an increased sum of money, and the matter

could go forward without a second Inquiry. This was done, and a loan for the whole amount required was in due course sanctioned. Shortly afterwards contracts for the erection of the hospital were entered into, and building operations were in progress during 1904 and 1905. The hospital for small-pox cases at Ravensmoor, belonging to the same Joint Hospital Board, is always kept in readiness for use.

The Northwich, Winsford and Middlewich Hospital did not take so long to erect. The plans were prepared and approved in 1903, building operations were begun in 1904, and the hospital was opened on October 1st, 1905. Lymm Isolation Hospital was only used for the isolation of 7 diphtheria cases in 1905 and 2 scarlet fever cases in 1906. In the Report for 1905 it was noted that an ambulance was needed, and in 1906 a suitable vehicle was provided. The District Council have made no arrangement for the isolation of small-pox cases. The Runcorn Urban District Council's Hospital consists of an Administrative Block and one Pavilion. As originally planned there were to have been two Pavilions, but the second was not built. It is an old hospital and rather out of date. It served for the isolation of 18 infectious cases in 1907.

At Wallasey, during 1907, the pressure on the hospital accommodation available was not as great as in 1905 or 1903. However, the isolation hospital, as recently extended, continues to be of great service to the District. The new pavilion, which was opened on January 13th, 1903, is one of the best and most completely equipped fever pavilions in the County, and gives accommodation for 12 female patients and 12 male patients (with cots for children in addition) and 2 convalescent wards, while the kitchen, bath-room, sanitary appliances, and heating arrangements are as satisfactory as they could be made. The additions to the Administrative Block, also completed in 1903, enable all the nurses to be accommodated there, and the house where some of them used to lodge has been given up. A new Discharging Block was also finished and opened in 1903, and forms a much needed addition to the hospital. It may be mentioned, too, that the laundry has been enlarged and brought up to date, that a porter's lodge has been built, and an ambulance-shed. Thus all the additions and alterations at Mill Lane Hospital were completed in 1903. North Mead House, which was never a convenient auxiliary hospital, was given up in the latter part of 1903. The new pavilion proved of the greatest advantage in the treatment of scarlet fever during 1904, but as the year advanced the pressure on its space was great, and it was resolved to erect a fourth pavilion, which will also probably be

used for scarlet fever; it was in course of erection during 1904 and 1905, and was formally opened on June 30th, 1905. The fourth pavilion contains 20 beds, exclusive of cots, and there is a day-room at each end for such patients as are able to be up. The four pavilions at Mill Lane Hospital provide in all 66 beds, and from 12 to 14 cots, as required. By August 29th, 1905, the number of cases of scarlet fever was so great that the new pavilion began to be used, and by November 21st, the hospital was so full that many convalescent children were transferred to North Mead House.

When cases need isolating at Yeardsley-cum-Whaley they are sent to Hyde Hospital, but there were none isolated in 1904—1907.

The Medical Officer to Bucklow Joint Hospital Board issued Annual Reports for 1903, 1904, 1905, 1906 and 1907.

As regards accommodation for small-pox the position is as follows: in 1900 a partnership was arranged between Knutsford Urban District Council and Bucklow Rural District Council, and the hospital, belonging to Knutsford, was removed from Tabley Hill to Mobberley, and placed under the management of a Joint Committee. It was re-erected on brick foundations, each of the three wards was provided with a fire-place and chimney, and a nurse's bedroom was added. At the end of 1902 this building was sold, as it stood, to the Joint Hospital Board, who then tried to find a site for it. The Withington Urban District Council had meanwhile bought a plot of land 14 acres in extent, at Newhall Green, Baguley, and proceeded to erect thereon a small-pox hospital of corrugated iron, etc., for their own use. The Board obtained 7 acres of this land, as tenants of the Withington Council, and early in 1903 brought the hospital from Mobberley and re-erected it at Newhall Green. The work was completed in February, 1903. Shortly afterwards another iron building to contain 3 bedrooms, and an iron pavilion (30 feet by 20 feet) were erected. This small-pox hospital will accommodate 9 patients at one time (allowing the full amount of air space per patient) and the necessary staff. The whole number of patients treated in this hospital during 1903 was 9, and the whole number treated in 1904 was 7. The hospital was maintained in a state of preparedness to receive patients in 1905, but was not needed.

By a further agreement which took effect from April 1st, 1907, the Board permits the removal of enteric fever cases to Monsall Hospital; the number of beds which can be

claimed in Baguley and Monsall together is raised to 45; and 10 beds are allocated at the small-pox hospital at Clayton Vale. The Corporation of Manchester resumes possession of the site at Newhall Green, purchases the temporary small-pox hospital there erected by the Board, and the ambulances, and contracts, upon terms, to do all the ambulance and disinfecting work of the Board. In other words, the Board's District becomes entitled to share in all the benefits of the Manchester Corporation's Hospital arrangements.

The hospital, belonging to Northwich Urban District Council, at Wade Brook, has beds available for 5 patients. It was in use till September 30th, 1905. The hospital erected by Northwich Rural District Council at Marbury, is available for patients suffering from small-pox, from the Urban and Rural Districts. Certain improvements have been effected therein to enable the Northwich Joint Hospital Board to take over the premises in good condition.

Macclesfield Rural District is served by the temporary small-pox hospital which was erected at Greenway, Sutton, in 1902. It was used in 1904 for the isolation of a case from Langley, but was not needed in 1905, 1906 or 1907. During 1905 the Council of this Rural District made an arrangement with the Corporation of Macclesfield to have four beds reserved for the use of patients from the Rural District, viz.:—2 for scarlet fever cases and 2 for enteric fever cases.

For Runcorn Rural District, as already mentioned, a new Isolation Hospital has been erected at Dutton. It was completed in November, 1905, and in the following month opened for the reception of patients. It is for infectious cases other than small-pox. This hospital consists of an Administrative Block and Offices, a scarlet fever Pavilion to contain 12 beds, an enteric fever Pavilion to contain 8 beds, and an Observation Block to contain 4 beds. The site cost £1,050, and in addition to this the cost of the hospital would have been £9,850, but the Rural District Council asked to be allowed to defer building the scarlet fever pavilion for the present, and as this was estimated to cost £1,850, they only sought to borrow £8,000. The temporary small-pox hospital at Moore is kept in readiness, but was not required in 1907.

Early in 1903, a Joint Hospital District was formed for Tarvin and Malpas Rural Districts, and Tarporley Urban District. There is nothing in the Reports from these Districts to indicate that the Joint Board have as yet put

into operation the powers conferred upon them by the Order creating the District. A site was chosen for a hospital, but when the Joint Board found the owner was unwilling to sell it, nothing further was done. Then an agreement was come to with the Chester Authority for the use of beds in their hospital at Sealand. However, Tarporley Urban District Council allege that this is too far to send their patients. As a matter of fact only 7 cases were sent to hospital from Tarvin Rural District and none from the other Districts in 1907. Malpas Rural District Council have an arrangement for sending small-pox cases to the hospital belonging to Whitchurch Union.

The Isolation Hospitals in the Administrative County, which do not belong to District Councils, Urban or Rural, are the Liverpool Port Hospital, the Bromborough Pool Hospital, the Macclesfield Guardians' Infectious Hospital, and the two Hospitals provided at the County Asylums at Upton and Parkside. The Port Hospital is for cholera or plague, and occasionally other cases occurring on shipboard. The Bromborough Pool Hospital belongs to Price's Patent Candle Company, and is solely for the use of employees at the Works. The Macclesfield Guardians' Hospital is for cases of infectious disease arising in the Workhouse; and the Asylums Hospitals are, of course, exclusively for cases occurring among the inmates of the Asylums. Thus not one of these Hospitals is generally available.

The new Chester Isolation Hospital is used by the Hoole Urban District, and the Chester Rural District. Stockport Borough Hospital, which like the Chester Hospital is outside the Administrative County, is used to some extent by Hazel Grove and Bramhall Urban District. The hospital at Ashton-under-Lyne has been used by Stalybridge for small-pox cases. The hospital at Biddulph has been used by the Borough of Congleton to isolate cases of diphtheria. Monsall Hospital, near Manchester, is used for cases of infectious disease which may occur in Barnes Convalescent Hospital, and by Bucklow Joint Hospital Board. The High Peak Hospital also appears to be available for Compstall Urban District.

How singularly inadequate the existing hospital accommodation is, to meet the requirements of an area having a population of 653,995, must be obvious. The provision made is even more inadequate than it looks on paper. Not infrequently infectious cases have to be treated in Workhouses, and many who cannot be properly housed and isolated at home are not removed, but remain as possible sources of

infection to members of their families and neighbours. Notification of infectious diseases should be of great service to an Authority, but if, when a case of infectious disease is notified—it may be the initial case in an epidemic—there is no means of isolating the patient, the Authority cannot do all that is practicable to prevent the spread of infection. Of the 4,535 cases of infectious disease notified in 1907 (excluding chicken pox, measles and whooping-cough, etc.) only 1,912, *i.e.*, 42.15 per cent. were isolated in hospital. However, the proportion compares very favorably with that recorded in all years previous to 1903. The proportion of notified cases isolated in 1906 was 38.98 per cent. In 1905 it was 34.31 per cent.; in 1904 34.89 per cent.; in 1903 42.07 per cent.; in 1902 it was 27.02 per cent.; in 1901 30.54 per cent.; and in 1900 31.62 per cent. In 1892-99 it was 16.12 per cent.

In many of the reports are references to the need of Isolation Hospital accommodation. In particular, some of the important Rural Districts are entirely without Isolation Hospital accommodation, except a few beds for small-pox, as in Congleton Rural District and Malpas Rural District.

It is thus apparent that some of the Isolation Hospitals, markedly those at Crewe and Wallasey, have done excellent work during the year, and there is abundant evidence, as there has been in past years, that when a well-built permanent building is provided, and properly equipped, there is no unwillingness on the part of the public to make use of it.

The opprobrium of Isolation Hospitals is what takes place at small temporary hospitals. There is accommodation for one disease, and yet from time to time two diseases are treated simultaneously. The building is unbearably hot in summer, and cold and draughty in the winter; it is very noisy in stormy weather, and soon gets out of repair, while the risk of fire is imminent. Then, there is imperfect supervision, no proper nursing staff, no suitable disinfecting apparatus, and the washing arrangements are unsatisfactory.

The Isolation Hospitals Act, 1893.—This Act, which was passed on December 21st, gives most important powers to County Councils, and enables them to take an active part in obtaining the provision of efficient hospitals for isolating and treating cases of infectious disease. The Public Health Act, 1875, gave powers to Local Authorities, separately and jointly, to provide hospitals for infectious cases; but as many Authorities neglected to use the powers conferred, or used them inadequately, and there was no ready way of moving these

Authorities to make sufficient hospital provision, it seemed that further legislation was needed, and this is supplied by the Isolation Hospitals Act. The Clerk of the County Council in January 1894, issued a summary of the principal provisions of the Act—the Council will be generally familiar with these. Without going into particulars, it may be well here to call attention to the contents of Sections 2, 3, 4, 5 and 6 of the Act. Section 2 refers to limits. The Act does not extend to Scotland, Ireland, or London, or to any County Borough, or, except with consent, to any Borough; only in case of a Borough of under 10,000 population the Local Government Board may direct that the Act shall apply. Section 3 empowers the Council of every County to provide, or cause to be provided, hospitals for the reception of infectious cases on application being made to them and proof adduced as mentioned in the Act, to the effect that necessity for such hospital exists. Section 4 states that the application may be made by one or more Local Authorities, as defined by the Act, or by not less than 25 ratepayers in any contributory place. Section 5 directs that the application must be made by petition, and must state the District for which the hospital is required and the reasons for its establishment. The County Council are to consider the petition, and if satisfied that a *prima facie* case is made out, cause an inquiry to be made as to the necessity of the establishment of a hospital. By Section 6, a County Council may direct their Medical Officer of Health to make an inquiry as to the necessity of an Isolation Hospital being established for the use of any particular District, and if he reports that such a hospital ought to be established, the Council may take the same proceedings for its establishment, as if a petition had been presented by a Local Authority.

All the steps taken by the Cheshire County Council from January, 1894, to the close of 1901, with the view of giving effect to this Act, are set forth in detail in the County Medical Officer's Annual Reports for 1896-1901.

The Isolation Hospitals Act, 1901.—This Act has for its object the amendment in various particulars of the Isolation Hospitals Act, 1893. It enables Local Authorities (including Joint Boards) within the meaning of the Public Health Act, 1875, with the sanction of the Local Government Board, to transfer hospitals erected by them to County Councils. It also enables County Councils to make contributions to hospitals provided by Local Authorities (including Joint Boards) under the Public Health Act, 1875, and to borrow money for such purpose; and also to borrow in respect of contributions towards the erection of hospitals, erected under the Isolation Hospitals Act, 1893. This Act contains many other amendments of the Isolation

Hospitals Act, 1893, but the two mentioned were specially desired by the County Council; and, now that they are obtained, the County Council will be able (a) to contribute towards the structural expenses of new Isolation Hospitals to be erected and (b) where Isolation Hospitals have been provided sufficient for the districts in which they are situated, to contribute an annual sum, towards the establishment expenses of such hospitals, or the repayment of the capital cost of such hospitals.

This Act enabled the County Council to offer assistance to all Sanitary Authorities and Joint Hospital Boards in the County, by contributing towards the cost of a site, or towards the erection of an Isolation Hospital, or towards the annual repayments made in respect of a loan (principal and interest) raised to provide an Isolation Hospital, or towards the cost of providing an Isolation Hospital, the debt on which had been paid off, or towards the cost of hospital accommodation arranged for by agreement. Such assistance was accordingly offered. The terms of the offer, and the response thereto, made by the several Sanitary Authorities and Joint Hospital Boards, are set forth in the Reports of the Meetings of the Isolation Hospitals Acts Sub Committee, printed in the Minutes of Proceedings at the Quarterly Meetings of the County Council.

As regards the Isolation Hospital provided for Altrincham and Bowdon Urban Districts, and the Isolation Hospital provided for Runcorn Urban District, the County Medical Officer having reported that in his opinion these hospitals were not adequate for the Districts for which they were provided, no contribution was made towards them.

The Infectious Disease (Prevention) Act, 1890.

—This Act, except as regards London, where it has been in force since December, 1890, only comes into force after being formally adopted by the Local Authority. It gives increased control over the milk supply and increased powers of disinfection. It forbids the throwing of infectious rubbish into Ashpits, etc. It forbids the retaining of an infectious human body longer than 48 hours elsewhere than in a public mortuary, or a room not used as a living, sleeping, or work-room; and the removal of the body of any person dying of infectious disease in hospital, except for being buried forthwith. It empowers a Justice to order an infectious patient in a hospital for infectious diseases to be detained therein, until free from infection, if it can be shown that he is without proper means of isolation and lodging elsewhere. It requires the Authority to provide free temporary shelter, with the necessary

attendance, to the members of any families who have been compelled to leave their houses, to enable them to be disinfected by the Authority.

This Act has been adopted by a few of the Local Authorities in the County, but there is no reference in any of the Reports as to its being made use of.

In the Boroughs of Crewe and Stalybridge the Act has been in force since 1891.

The Report from Dukinfield states that this Act was adopted in 1897, except Sections 9, 10, and 12.

The Report from the Middlewich Urban District states that this Act was adopted in May, 1898.

The Report from Bollington Urban District states that this Act was adopted in 1899, except Sections 6, 8, 9, 10, and 12.

The Report from Nantwich Urban District states that this Act was adopted in 1900.

The Report from Hale Urban District states that this Act was adopted in November, 1900.

The Public Health Acts Amendment Act, 1890.—

This Act is also an "adoptive" one, but it does not apply to London. It gives power to regulate public sanitary conveniences, such conveniences used in common by occupants of two or more houses, or provided for factories or workshops. It empowers the Urban Authorities to make bye-laws for keeping W.C.'s supplied with sufficient flushing water ; as to structure of floors, hearths, and staircases, and the height of dwelling-rooms, as to paving yards and open spaces about houses, and as to providing new houses with secondary means of access for removal of refuse, etc. ; as to times for removal through the streets of offensive matter, and as to vessels and carts employed being properly constructed and covered. It forbids rooms over privies, middens, or ashpits being used as living or sleeping rooms ; and the erection of new buildings on foul sites. It permits all articles of unsound food, even those already sold, to be seized and condemned before seizure. Finally, under this Act the occupier of a registered slaughter-house, convicted of having sold or had for sale unsound meat, may have his license revoked.

In the Report from Bredbury and Romiley it is stated that the District Council adopted this Act in 1896, and that it came in force on January 1st, 1897. The Marple District Council adopted the Act in 1895. During 1893, the Act was adopted by the

Runcorn Rural Authority so far as it relates to Rural Districts ; and in 1892 it was adopted by the Chester Rural Authority. Early in 1891 the Act was adopted by the Borough of Hyde. It has also been adopted by the Borough of Crewe and by the Winsford Urban Authority. The Bollington Urban District Council adopted Part 3 in 1899, and the Mottram Urban District Council adopted Part 3 in 1901. However, neither this Act nor the Infectious Disease (Prevention) Act have been generally adopted, and where they have been adopted there is little evidence that the increased powers acquired have been used.

The Private Street Works Act, 1892.—This Act is also an “adoptive” one. It may be adopted in any Urban Sanitary District in England, and the Local Government Board may extend the Act to any Rural Sanitary District or part thereof. When the Act is adopted, any street or part of a street not sewered, levelled, paved, metalled, flagged, channelled, made good and lighted to the satisfaction of the Authority may be sewered, levelled, paved, metalled, flagged, channelled, made good or provided with the proper means of lighting by the Authority, the expenses incurred in executing such private street works being apportioned on the premises fronting, adjoining, or abutting on such street or part of street, the sums apportioned being recoverable summarily or by action, or in the same manner as private improvement expenses are recoverable under the Public Health Act, 1875. Also the Authority may, if they think fit, contribute the whole or a portion of the expenses of any private street works.

When all or any of the private street works mentioned have been executed in a street or part of a street, the Authority may, by notice fixed on such street, etc., declare the whole of such street, or part of street to be a highway repairable by the inhabitants at large. And if any street is now, or shall hereafter be sewered, levelled, etc., to the satisfaction of the Authority, then, on application in writing of the greater part in value of the owners of the houses and land in such street, the Authority shall, within three months, by notice put up in such street, declare the same to be a highway repairable by the inhabitants at large.

The Dukinfield Urban District adopted this Act in October, 1896. It was also adopted in 1896 for the portion of Appleton (including Stockton Heath) in the Runcorn Rural District. The Northwich Urban District adopted the Act some time since. In the Report from Hoylake and West Kirby are notes of streets constructed under the Act. In the Report from Bucklow Rural District it is stated that certain streets were put in good order under the Act. The Bollington Urban District

adopted this Act in 1899, and it came into force on September 1st. Why so singularly useful an Act as this has not been more generally adopted, and used is inexplicable.

Disinfection by Steam.—An efficient apparatus for disinfecting by steam the clothing, bedding, etc., of infectious patients is a necessary part of the equipment of a Sanitary Authority. Yet a large majority of the Authorities in the County have taken no steps to provide any apparatus for this purpose. At both Hyde and Wallasey there is an excellent apparatus conveniently near the Isolation Hospital. The Runcorn Rural Authority also have a good apparatus. The steam disinfector provided at Crewe in 1894 has since been much used. It is available for some districts contiguous, but they rarely make use of it. A similar apparatus erected at Altrincham in the same year works satisfactorily.

The Medical Officer of Health for the Wirral Rural District reports that a good disinfecting apparatus, for disinfecting bedding and clothing by steam, was erected in 1902, contiguous to the Spital Isolation Hospital; and that in 1903 two covered vans were built to convey bedding, etc., to and from this disinfecting apparatus.

The Medical Officer of Health for the Borough of Macclesfield reports that a Thresh (current steam) Disinfector was purchased for his Borough in 1902, and that it is efficient and easy to work.

In the Reports from twelve districts the need of an apparatus for efficient disinfection of bedding, etc., is mentioned. At Dukinfield during 1896 a deputation from the Sanitary Committee visited Oldham, to see the steam disinfector in use there. It seemed to give great satisfaction, and it was recommended that a similar apparatus be provided for Dukinfield; however, at the close of 1907 the Town Council had not decided to obtain a disinfector.

The Cheadle and Gatley District Council in November, 1897, instructed their Medical Officer of Health to report on the various steam disinfectors in use. He accordingly made investigations and presented a very complete Report, which is dated February 12th, 1898, but no steam disinfector has yet been provided for the District. The Medical Officers of Health for Alderley Edge, Compstall, Knutsford, Marple, Hale, Wilmslow, and Winsford Urban Districts and for Nantwich Urban and Rural Districts, in the Reports for 1903, 1904, 1905 and 1906, drew attention to the need of a proper disinfecting apparatus.

The Medical Officer of Health for Stalybridge reports that his Sanitary Committee have decided to erect a Disinfecting House, and to provide therein a steam disinfector, and bathroom, thus affording facilities for disinfecting persons and clothing exposed to infection.

The bedding and clothing should be fetched and delivered by the Authority's officers in light covered vans provided for the purpose. One van should always be used for collecting, the other for delivering, and to avoid all possible risk of the one being mistaken for the other, it is convenient to have the collecting van painted red and the delivering van painted green.

Disinfection of Premises.—In several Districts carbolic fluid, and packets of carbolic powder are given to those who apply for disinfectants at the Inspector's Office. However, the disinfection of rooms, which have been occupied by infectious persons, appears ordinarily to be done or supervised by the Authority's officers; and what these officers mainly trust to is fumigation, by means of burning sulphur. Now it is worth while asking—Does this “stoving” leave the room much as it was before? If the ceiling be limewashed, if the floor and woodwork be properly washed with carbolic acid and soap and water, and if the walls be stripped and cleaned, the room will be efficiently disinfected. Whether the room has or has not been fumigated with burning sulphur makes very little difference. Indeed, the fumigation may be mischievous, by giving a false sense of security, and leading to the neglect of really efficient disinfection.

Disinfection by burning sulphur having had a long trial (it has been more or less in use since the days of Homer) and been found wanting, it is gratifying to see that it has been abandoned at Crewe. During 1896, the method of disinfection employed in this Borough was that which had been practised in Paris for some years—applying a solution (1 in 1,000) of corrosive sublimate to the ceilings, walls, etc., by means of a sprayer. In the Report for 1897, it was stated that the method in use was “sponging or washing the room surfaces with solution of perchloride of mercury.” At the beginning of 1899 the equifex sprayer was again in use, but it was found that one of the operators was frequently ill after work, and shewed unmistakable signs of mercurial poisoning (salivation, sore gums, muscular tremors, diarrhoea, etc.) Spraying with corrosive sublimate solution was therefore stopped, and a solution of sodium hypochlorite (1 in 100) was substituted. The spray is still used in many

cases, but latterly rooms have been commonly disinfected by formaldehyde lamps.

In the Borough of Macclesfield also formic aldehyde (both as a spray and vapour) has been substituted for sulphurous acid; and instead of carbolic powder and carbolic acid, "chloros" (containing 10 per cent. of chlorine) and chloride of lime are being used. The Medical Officer of Health for Hale has also been trying formic aldehyde for the disinfection of infected rooms. In his opinion a strong point in its favour is that it does not act injuriously on household effects. The Medical Officer of Health for Bredbury has also been trying formic aldehyde lamps, and believes this to be a surer way of disinfecting than trusting to the fumes of sulphur.

At Wallasey both sulphurous acid and formic aldehyde are made use of. It is noted that when the latter is used there is no objectionable odour such as is left after fumigating with sulphur. In this District an apparatus was provided in 1900, for disinfecting library books with formic aldehyde. In Bucklow Rural District premises are being disinfected by formic-sulphugators supplied by the Sanitas Company. It is claimed that they generate formic aldehyde, sulphurous acid gas, and steam. They are portable and easily lighted. This Authority have also a spraying apparatus, but it is too heavy to carry about for any distance. Householders are recommended to use cholrinated lime. In Nantwich Rural District the disinfection of rooms is largely effected by means of formic aldehyde.

Memorandum on Disinfection.—Towards the close of the year 1897, the County Medical Officer of Health was instructed to prepare a short Memorandum on the best means of disinfecting clothing, premises, etc. A Memorandum (dated December 27th, 1897) was accordingly prepared and printed. This was laid before the Public Health Committee on January 21st, 1898, when the Clerk was authorised to forward copies of it to the Boards of Guardians, and Urban and Rural District Councils in the County, with an intimation that the Committee recommended its general adoption, and hoped that the Boards of Guardians and District Councils would take steps to circulate it among the residents in their several Districts. Prints of the Memorandum were sent out accordingly, and in some parts of the County widely distributed. This Memorandum was re-printed in the Annual Report for 1897; thus all Medical Officers of Health for Districts in the County have had ample opportunity of

studying the text. However, as disinfecting by sulphur fumigation is still the routine practice in so many Districts, it may be useful to insert here the following paragraph from the Memorandum:—

“THE DISINFECTION OF ROOMS can be simply, rapidly, and economically effected by brushing over the ceiling, walls (including woodwork) and floors with a mixture of chlorinated lime and water (one part of good chlorinated lime to a hundred parts of water by weight) or a clear filtrate of the same. Afterwards, the room should be thoroughly aired, and the floor and all the woodwork well washed with soap and water.”

Systematic Inspection.—Probably it is the Inspector's first duty to give prompt attention to nuisances complained of by tenants or others, or discovered on infected premises. Scarcely of secondary importance, however, is the duty of systematic house-to-house inspection of the District, so that the sanitary condition and surroundings of every house may be known, a record kept, and defects remedied. This duty is not neglected; indeed, many Medical Officers of Health in their Reports recognise its necessity; still, it does not appear to be carried out as thoroughly as it should be. Doubtless, house-to-house inspection is made “when time permits,” but if, in any District, it only occasionally happens that time permits, the reasonable conclusion is that an additional Inspector is required. In some Reports the need of an Assistant Inspector is referred to. It is certainly true that by systematic inspection many defects are brought to light and remedied, which would never be complained of.

Extra Work to Inspectors.—All those who have any acquaintance with Public Health matters know that it is a common practice to appoint the same man District Surveyor and Inspector of Nuisances. The result not infrequently is, that the pressing duties connected with the Surveyor's Department take up most of the man's time, and only a small remnant of each day or week is left for inspection. Unsatisfactory as this practice is, in some instances the public is used to it. There is, however, a growing tendency to thrust upon Inspectors various miscellaneous duties which might properly be left in the hands of the Police. In some Districts the Nuisance Inspector is also the Inspector of Hackney Carriages; in some he has to attend yearly to the renewal of Game Licenses, and in two Districts the Inspector appears to undertake prosecutions for firing chimneys. At least one Sanitary Inspector issues licenses to deal in

petroleum, under the Petroleum Acts; another has thrown upon him duties under the Dogs Act, and two or three are Inspectors under the Contagious Diseases (Animals) Act. Under conditions such as these, it need be no surprise that house-to-house inspection does not go on continually and regularly in every District.

Abatement of Nuisances.—The word “nuisance,” as defined by the Public Health Act, 1875, includes so many things and conditions, that it may be said almost every form of pollution of air, ground, or water constitutes a nuisance. Some of these are made the subject of complaint to the Medical Officer of Health or Inspector; some they discover for themselves. In either case, each nuisance is entered in a book, and an attempt made to obtain its abatement. The nuisances are due to various causes, among others insufficient drains and sewers, defective drains and sewers, obstructed drains and sewers, ditches carrying sewage, defective traps, waste-pipes untrapped or badly arranged, waste-pipes directly connected, broken water-fittings, no supply or an insufficient supply, soil-pipes unventilated, or ill-ventilated, rain-pipes directly connected, defective rain-conductors or roofs, damp walls, dead rats and mice under floors, offensive accumulations of refuse, defective ashpits, privies or w.c.’s, yards lodging foul water, offensive ponds, dirty or overcrowded houses, animals or birds so kept as to be a nuisance, and excessive smoke from chimneys. Nuisances thus caused are abated without formal notice, or on formal notice, or after proceedings. In some Districts the abatement of a large number of nuisances entered on the books is effected without formal notice, in others a formal notice is served in nearly every case. Further proceedings were rarely necessary in any of the Districts.

The work of obtaining the abatement of nuisances certainly seems to have full attention from Medical Officers of Health, while it very properly occupies a large share of the time of Sanitary Inspectors. As regards 27 Districts, Reports are submitted by the Inspectors, giving particulars of the nature of the nuisance dealt with, and occasional notes of difficulties or failure. These Reports are all interesting. If they were drawn up on a uniform plan, and a Report was sent in by every Inspector in the County, the information supplied would be most useful.

Very little seems to be attempted, and still less accomplished, as regards the abatement of smoke nuisances. In some Districts where many hundreds of other nuisances are

reported, there is but one smoke nuisance or none. However, it is not always the Inspector who is to blame. Creating a smoke nuisance seems to be regarded as quite a venal offence by some District Councils and Magistrates. Yet the presence of smoke implies the presence of noxious vapours (sulphurous acid mainly), and smoke-polluted air exercises a very distinct influence on the death-rate.

Examining Houses on Request.—It may be remembered that in November, 1893, public notice was given in the Borough of Crewe that anyone might have his house examined to ascertain its sanitary condition, free of charge on making application to the Sanitary Department. The object was principally to enable new comers to the town to ascertain the condition of any house they might contemplate occupying. Several householders have availed themselves of this offer. There can be no reason why this should not be attempted in other Urban Districts.

Examination of New Houses.—It might be thought that requiring new houses to be certified as fit for human habitation before occupation, would be usual, at least in Urban Districts, but it is not. In some few Districts new houses are examined and certified by the Surveyor. A bye-law requiring new houses to be certified as fit for habitation was brought into force in Crewe in 1897.

If the examining of new houses before their occupation were efficiently done, it would, in many instances, PREVENT nuisances, which is wiser and more economical than allowing nuisances to be caused, and then endeavouring to ABATE them.

Rateable Value of Houses.—In the Crewe Report is a note of the value of houses on the rate-books. It shows that on September 30th, 1907, over 69 per cent. of the houses in the Borough were rated under £10 per annum, and over 94 per cent. were rated under £20 per annum. If similar information were furnished by other Districts it might throw some light on the incidence of disease and mortality, and aid in the solution of some health problems.

Ash-pits, Middens, &c.—The storing of refuse in receptacles in close proximity to inhabited houses is an insanitary practice. The system adopted in many towns where each house is provided with a dust-box or dust-pail to be

emptied by dustmen early every morning, is a great improvement on the ash-pit system. When, however, privies and ash-pits are combined, and every kind of domestic refuse is deposited in the same receptacle, its proximity to a dwelling-house is even more objectionable. Yet these "compound middens" (they go by various names) are very common throughout Cheshire, and in Rural Districts, as well as in some Urban Districts, they represent the sanitary arrangements ordinarily provided. The problem that Local Authorities and their responsible advisers have to solve is how to improve the compound middens, and reduce to a minimum the nuisance therefrom. There is little doubt the water-carriage system is the most satisfactory, where practicable, and, consequently, the best way of altering the compound midden is to convert it into a w.c. and small dry ash-pit, or (what is better) a receptacle to contain a movable ash-bin. Not so many conversions were effected in 1907 as in some recent years, still, in the Borough of Crewe, there were 312 more chain water-closets at the close of the year 1907 than at the close of the year 1906. In the Borough of Macclesfield 425 privies were converted into water-closets, and 59 new water-closets were built in 1907. Generally it may be said that slop water-closets are not in favour. The slop-closet is flushed with waste water by means of a tumbler, and in some Districts where many are in use, they are said to work satisfactorily. They may be adapted to localities where the supply of water is deficient, and where it would be difficult or impossible to procure water for the service-cisterns of ordinary water-closets. In any case the slop-closet is a poor substitute for a closet flushed with clean water. It also needs to be regularly and frequently inspected, as, when one is out of order, a serious nuisance is created.

In localities where the w.c. is not practicable, the old pit should be filled up to the ground level, the bottom being paved, and the walls cemented over, inside. The work of emptying will be made easier, and will probably be done more regularly and systematically, if movable receptacles are provided. Modifying the compound middens in various ways is continually in progress as part of the work of nuisance abatement. In requiring a change, the great point is to be sure that the change specified is the best under the circumstances, and this is far from easy. Occasionally the middens are so large, and so bad in form, that it seems impossible to improve them. Such middens have been seen at Dukinfield, Hyde, and Stalybridge. Such structures also exist in Macclesfield Borough. "In some cases," writes the Medical Officer of

Health, "the midden is old and dilapidated, resembling a huge cavern with many recesses."

Constructing cesspools which admit the rain-water, and furnishing them with overflow pipes to the sewer, seems to have been not uncommon, at one time, in Middlewich and Winsford, and many of these cesspools still exist. They are referred to with reprobation by the Medical Officer of Health for these Districts, and there is no doubt that they are wholly bad. As regards Winsford, the Medical Officer of Health estimates that there are still upwards of 1445 houses there having privies mostly old and faulty. "The subsoil of the site upon which the town is built must be thoroughly saturated with organic matter, owing to the use (from time immemorial) of these cesspools, which conjoin leakiness of construction with a size commensurate with the needs of a period of four months."

At Lymm it has been found that many persons "from ignorance, carelessness, or obstinacy, persist in regarding an ashpit as a receptacle for all the waste refuse" in the house: so the Inspector was asked to draw up a notice intimating what articles of refuse should not be placed in ashpits, and appealing to householders to assist the Authority in their efforts to prevent nuisances, etc. Such a notice was accordingly drawn up and printed, and the District Council have had copies pasted on the doors of all ashpits. This was a very simple thing to do, and cost little, yet it is almost certain to do some good. Other Districts may see their way to imitating the example Lymm has set, and thus mitigate in some measure the ashpit nuisance.

Refuse Removal.—Quite as important as the proper construction of ashpits, etc., is the systematic removal of their contents. In rural places, what is in the midden and cesspool is commonly disposed of on a garden or field belonging to the house, or awaits the convenience of a neighbouring farmer, who removes the stuff at his own cost, or even pays a trifle for it. In Townships where water closets are in general use, the ashpit refuse is practically valueless, so that its removal has to be paid for, and often land has to be found on which to tip it. Certainly it is one of the duties of the Local Authority to arrange for this work being regularly done, and at short intervals. In this County the Local Authorities which have undertaken the work have commonly contracted for its being done under the supervision of the Sanitary Inspectors. The work is probably better carried on when done by the Authority's men, with the Authority's appliances, without the intervention of a

contractor. Of course, where pail-closets are provided, there is more than usual need for regular and frequent emptying. The pails should be supplied in duplicate, and each pail should be cleansed after emptying, and charged with a disinfectant. Cess-pools and privy-middens should obviously be emptied at night, and, if practicable, pails also. As to frequency, all Medical Officers of Health are agreed that the emptying should be done at short intervals, but as a fact the pits are not ordinarily emptied until they are full or nearly full. This is all that "well attended to" or "fairly well attended to" commonly means. The Medical Officer of Health of the Chester Rural District advises that the emptying should be done weekly or fortnightly, but it is very difficult to insure this being done. Pails should certainly be emptied once or twice a week, but as regards middens, a monthly emptying will satisfy most Authorities. Whether the rule be to empty the ashpit or midden once a fortnight or once in six weeks, it should, of course, be emptied at any time on complaint that it is full.

In the Wallasey Urban District a great improvement has taken place. On July 1st, 1897, the Health Committee began to undertake the collection of nightsoil, etc., with their own staff of men, horses and carts. The work has since been carried on smoothly and efficiently, in marked contrast to the lax methods followed by contractors in late years, which gave rise to numerous well-founded complaints. In many houses, old as well as new, covered dust-bins have been substituted for ashpits, and as these are fitted with handles, the contents are removed from them easily, and with little noise. They are emptied regularly once a week. These are found to be a great improvement. The bins cost but a few shillings apiece, and any householder, by buying one, and giving notice to the Authority, can do away with the ashpit nuisance on his premises. The substitution of covered dust-bins for ashpits is thus continually going on, and a revolution in the old system of refuse removal is being quietly effected. At Hoylake and West Kirby, also, the majority of the new houses are provided with movable dust-bins.

At Mottram refuse removal used to be very badly attended to. After the District had been visited by and Inspector of the Local Government Board, he reported unfavourably upon it, and advised the Local Government Board to issue an order under Section 42 of the Public Health Act, 1875, requiring the District Council to undertake, or contract for the emptying of privies, ashpits, etc. This order was issued in September, 1897, and came into force in the District on October 1st. The Council subsequently provided a proper covered cart for removing refuse, etc., and contracted for its regular removal.

At Wilmslow, where there has been no regular system of emptying ashpits, the house-tenant has to pay for each emptying. The ashpits are still emptied badly and irregularly, and the result is more or less a nuisance.

As regards the cost of this work, though the total sum paid is given by many Medical Officers of Health, it is difficult to compare the outlay in one District with the outlay in another, without full particulars of the work done, and of the way it is done.

In one District (Sandbach) £89 10s. 6d. was received during the year for the saleable portion of the stuff collected; but this must be an unusual experience, outside Sandbach. At Crewe, where there are receptacles of all kinds, the cost of emptying was 3s. 8½d. per load in 1897 and 1898; but in 1899 owing to the Corporation having to abandon all tips and send practically all the refuse (whether gathered in the day or night) to the farm, the cost of emptying went up to 3s. 11d. per load, in 1900 the cost was 4s. per load, in 1901 the cost was 4s. 1¼d. per load, in 1902 the cost was 4s. 0½d. per load, in 1903 the cost was 3s. 11d. per load, in 1904 the cost was 3s. 11d. per load, in 1905 the cost was 3s. 11½d. per load, and in 1906 the cost was 4/2¾ per load, in 1907 the day emptyings cost 3/6¾ and the night emptyings 6/1. In Macclesfield (a Borough less populous than Crewe) the cost of emptying was 3/1½ per load, in 1898, 3/3⅑ per load in 1899, 3/5⅗ per load in 1900, 4/3⅑ per load in 1901, 3/8⅗ per load in 1902, 3/7¼ per load in 1903, 3/10¼ per load in 1904, 3/5⅓ per load in 1905, 3/1⅓ per load in 1906 and 3/6⅔ per load in 1907.

However, it is hardly fair to compare the cost of removal in different towns; so much depends on the distance the material has to be carted before it is tipped. Paying a little more for removal is wiser than depositing the refuse on land which may soon be used for building sites. As showing that this work may be better and more economically done without employing a contractor, it was stated in the Bucklow Report for 1900 that the scavenging contract for Northenden was allowed to lapse as the price showed an upward tendency. The work has since been undertaken by the District Council, and very efficiently carried out, manual and team labour being engaged direct, thereby saving £100 per annum. Special arrangements should be made for collecting and destroying trade refuse from poulterers, fishmongers, greengrocers, etc., if this is not done nuisances are almost certain to arise, especially during warm weather. At Crewe the carts for carrying the dry ashes, as well as the nightsoil carts, are covered.

Another duty of the Authority, in reference to refuse removal, is to arrange tips in suitable situations, sufficiently remote from inhabited houses, and the provision of such tips is often a difficult task. Privy-refuse should, of course, be used promptly on the land.

The use of Pails containing Acidulated Peat, a full account of which was given in the Annual Report for 1894, is still in practise in the Borough of Congleton. During 1907 there were 1848 pails in use, and 4150 tons of nightsoil were removed. All this nightsoil was manufactured with manure—forming a marly dry powder, almost free from smell, and of this 480 tons were sold. At Knutsford a number of large cesspools have been abolished, and the “Congleton system” has been introduced. The number of pails in use is now 175. They are reported on favourably, and are to be increased yearly. In Middlewich about 271 peat pails appear to be in use. They give satisfaction. At Winsford the “peat pail system” was introduced during 1900. An explanatory circular was drawn up, describing the system, and distributed to property owners. During 1900, 28 pails were installed, and since then the number of pails has been increased to 324. The general adoption of the system is advocated by the District Medical Officer of Health.

Destructors.—The best way of dealing with midden-refuse is by means of cremation, in specially constructed furnaces known as destructors. The process is cleanly and simple. The refuse is packed into large close furnaces, through holes at the top, and burnt. That which is incombustible, after being subjected to an intense heat for a long time, is drawn at the lower part of the furnaces in the form of vitrified cinders or slack, which, when cool, is either thrown into a mortar-mill and ground (taking the place in the mortar of clean sharp sand) or used for path making or some similar purpose. Any iron-waste drawn with the slag is sorted out, and finds a ready market.

Up to 1902, the only District in which a refuse destructor was provided was Wirral. A steam-disinfector was being provided, and a destructor was built contiguous thereto. There is still great need of destructors, especially in the larger Urban Districts. It is getting more and more difficult every year to find land on which refuse may be tipped without creating a nuisance or fouling the foundations of future houses. If the stuff is tipped in the near neighbourhood of dwelling houses the tenants very naturally complain, and the great cost of cartage prevents the Authority from taking it right out into the country. The Medical Officers

of Health for the Borough of Dukinfield, and the Urban Districts of Northwich, Marple, and Neston and Parkgate, have frequently referred to the need of destructors. In some towns, where the tip is a long way off, the annual saving of cartage would almost pay for providing and working a destructor. Some time since, a deputation from Dukinfield inspected certain destructors and reported favourably on them, and particularly on the apparatus at Darwen Electric Supply Station. A Sub-Committee from Northwich has also inspected several destructors in use.

At Stalybridge, the Sanitary Committee have erected a destructor (Messrs. Heenan & Loudes), with all the latest improvements, and some of the most objectionable "tips" are now closed.

If any District Council wish to inspect a destructor in working they can do so at Hyde or Wallasey. In the last named District an apparatus containing six cells began work in June, 1895, and it proved so useful in dealing with refuse that six additional cells were obtained in 1897. The power developed by the heat generated in this large destructor, is used for the production of electricity to light the premises, and also for turning a mill to grind the clinkers and make mortar, which is sold to builders. The stabling and other buildings for the plant used in the collection of nightsoil, etc., were completed satisfactorily in 1897.

Sewering and Sewage Treatment.—The work of draining, sewerage, and providing for sewage treatment, has been carried forward in almost every part of the county in 1907. At the Borough of Congleton sanction to borrow £16,953, for the purposes of sewerage and sewage disposal was obtained in 1901. This sum includes the amount required for the purchase of suitable freehold land for sewage disposal. The work of laying sewers was begun in 1901, and good progress was made in 1902-4. The septic tanks were completed in 1904, and so were two of the large bacteriological beds. At the end of 1904, about one-sixteenth of the sewage of the Borough was being dealt with. During 1905, good progress was made, and by the end of the year seven of the bacteriological beds were completed and working. The eighth (and last) bed was nearly finished, and the large roughing filter was in operation, though not quite filled. All the sewage is being dealt with. The bacteriological beds are circular in plan and the sewage from the tanks is delivered on them by revolving sprinklers. These important sewage disposal works were completed in 1906, except that the roughing filter was still in need of a few more loads of clinker. In Crewe, where broad irrigation failed to produce a good effluent, the Corporation, some

few years since, completed their arrangement for dealing with the northern outfall sewage on the lines indicated by Dibdin. Accordingly a large open septic tank was constructed, of sufficient capacity to hold one day's sewage, and five primary and five secondary bacteria beds. During 1902 the septic tank was fitted with scum-boards, the fifth pair of bacteria beds were finished, and increased aeration provided, and the discharge pipes of all the beds were lowered, so as to drain each bed to the bottom. About four-fifths of the sewage of Crewe is still dealt with by using it for the irrigation of the farm. The effluents from the bacteria beds have on the whole proved very satisfactory. Towards the end of 1907 a new circular continuous filter was constructed; the first samples of effluent was unsatisfactory, but now the effluent produced is well within the requirements of the County Council. The construction of nine large circular bacteria beds is under consideration, and plans and sections have been prepared. Dukinfield, with Stalybridge and Audenshaw, takes its sewage to Bradley Hurst Farm, and for carrying out this scheme the Local Government Board sanctioned the borrowing of £58,300. The works were completed and opened in 1900, and during 1901 were generally in use. The sewage is treated by precipitation (without the use of chemicals) and filtration, and then passed on land. The works do not appear to be acting quite satisfactorily. At Hyde, where there are $18\frac{1}{2}$ miles of main sewers, and 10 miles of private street sewers, complaints of effluvia are occasionally received, and the Medical Officer of Health has suggested further ventilation of the sewers. At the Borough of Macclesfield main drainage was completed in 1896, but the connecting of many streets and houses, which previously could not be drained, yet remains to be done. A certain number of these connections are effected yearly. During 1907, 187 yards of new sewers were laid. A list has been drawn up of those streets which still require proper sewerage, and special attention is drawn to the most urgently needed improvements. The sewage farm at Butley has not given satisfactory results, and pressure has been put upon the Corporation to take steps to ensure a better effluent. The provision of bacteria beds is under consideration. A Sub-Committee, appointed in February, 1903, after visiting many sewage disposal works, resolved that Mr. R. E. Berrington be appointed engineer, to prepare a scheme for the improvement of the works at Butley. Mr. Berrington proposes to enable the works to deal with 1,038,720 gallons in 24 hours, the capacity of the existing tanks being only 482,962 gallons. He will then arrange for the tank effluent to be delivered by revolving sprinklers, on filters, circular in plan. The construction of the additional tanks and the new filters, and re-arranging the existing works, is estimated to cost £14,000. During 1904 an Inspector of the Local Govern-

ment Board held an inquiry with regard to an application of the Town Council for sanction to borrow £14,000 for alterations and extensions at the sewage disposal works. Sanction was obtained in due course, and the work was commenced in August, 1904. It was in progress in 1905, 1906 and 1907. The works have now been completed, at first the results were not satisfactory, but considerable improvement has recently been effected.

At Alderley Edge the new filter-beds appear to be acting satisfactorily. Much of the eight acres of out-fall land will be available for irrigation. A contract for the further improvement of the filter beds was let in 1904, and the work was completed in 1905. The improvements give satisfaction. At Alsager the filtration area is only an acre and three-quarters in extent, and has become sodden and water-logged. The Medical Officer of Health is of opinion that additional land (2 acres) is much needed. The sewers have but slight fall and require more frequent flushing. The Council have the matter under consideration. At Altrincham, during 1901, the new works in connection with the extension of the sewage farm was begun, and since then good progress has been made. At a portion of the new works sewage is being received and dealt with. At Ashton-upon-Mersey the willow-beds, where the sewage is treated, no longer act effectively, and steps are being taken to extend the sewage beds by the addition of fresh land.

In the Annual Report for 1901 it was stated that the scheme for the drainage of Lower Bebington had been satisfactorily carried out, and was in operation. This has done much to improve the condition of Bromborough Pool, which was previously much polluted. Higher Bebington, except in the case of a few outlying houses, is well sewered to Lower Bebington sewers. The Higher Bebington District Council pay a small sum for wayleave on sewer, and half the cost of repairs. As regards Bollington, after the amalgamation of Kerridge therewith, an engineer was appointed to prepare a scheme for the consideration of the District Council. With some alterations, directed towards the reduction of cost, the scheme received the provisional sanction of the Local Government Board. As the Borrowing powers of the Council are nearly exhausted, the scheme had to be cut down, thus the means of ventilating the sewers will be not so efficient as originally planned, and the size of the filter beds as planned has been reduced. According to the Report of the Medical Officer of Health the new main drainage scheme was commenced in July, 1905, and a caretaker has since been appointed to look after the settling tanks and filter beds at the outfall works. The Council have, with as much speed as possible, pushed on the connecting

up of the drains from private property to the main drain. The completion of the Sewerage Scheme has caused a large amount of work in alterations to house drainage, a large number of houses having to be redrained. The drains of every house on the line of sewers is now connected thereto. No complaint has been received as to smells from pollution of the Brook. A further small extension of the line of sewers is necessary.

At Bowdon the sewage farm continues to be kept in fair working order. At Bredbury and Romiley the main drainage system is good, and sewerage for the greater part of the District is now complete. The Outfall Works for treating the sewage of Bredbury are at Wharf Meadow, Lower Bredbury. There are now upwards of 700 houses drained to these works. Romiley has separate Outfall Works, and to these 800 houses are drained. Bromborough is, on the whole, well sewered. The Buglawton Urban District Council have an arrangement with the Corporation of Congleton to receive and treat the Buglawton sewage at the Borough Outfall Works, however, Buglawton is still untreated, and continues to pollute the river. In Cheadle and Gatley a main drainage scheme was completed during 1901, and extensions were effected in 1903 and 1904. During 1905 about one-and-three-quarter miles of extensions were laid down; only a very short length was added in 1906. The sewage used to be treated with a solution of aluminoferric, and after sludge had been precipitated it was passed through filters of gravel, sand, and polarite. Now no chemical is used—the sewage is received into open septic tanks, and from these is passed on to the land. The works continue to be satisfactory. There are still $14\frac{1}{2}$ acres which can be used for land filtration when occasion arises. At present this land is not wanted, owing to a portion of the District being incorporated with Stockport. In the new Urban District of Compstall, the sewers, which carry slop-water only, have their outlet in a reservoir which stores water for a turbine. It is hardly necessary to point out that this is not an ideal arrangement. Ellesmere Port and Whitby Urban District is mainly sewered where built upon, except as regards a few outlying dwellings, such as those at Whitby Heath.

The District of Hale is fairly well sewered. The sewage when it reaches the Outfall Works is treated in three ways, viz. :—

- (1) By septic tank, followed by bacteria beds and broad irrigation.
- (2) By chemical treatment (aluminoferric precipitation) followed by broad irrigation.
- (3) By settling tanks and broad irrigation.

Alterations are being considered, and it is believed that when these are carried out the effluent will be satisfactory. At Handforth a system of main drainage is needed, a site for sewage works has been decided on, and it is to be hoped further steps will soon be taken. The drainage into open ditches constitutes a danger to public health. A scheme for main drainage has been prepared and submitted to the Local Government Board. The scheme seems calculated to meet the requirements of the District. The sewage of Hazel Grove drainage area continues to be dealt with by precipitation at the Offerton Sewage Works, which are in fairly good condition. The Bramhall drainage area system and outfall works were completed in 1902, and are in operation. At these works the sewage is dealt with bacteriologically. Practically, the whole of the area is connected with the system. An important addition to the sewerage of the Hazel Grove drainage area has been the construction of a main sewer at Torkington. It was completed in 1903, but not taken over till 1904. The whole drainage system is now in good working order. The sewers are periodically flushed. The report from Hollingworth is that the outfall works belonging to Hollingworth and Mottram are acting satisfactorily. At Hoole the sewers are reported to be in good order; they are connected with the sewerage system of the City of Chester, and the sewage is dealt with at the City outfall works. Hoylake and West Kirby are well sewered, and the sewers are extended from time to time as required. Several new sewers have been laid during the year to provide for houses newly erected. The sewers in Celtic Road and Egerton Drive, Meols, and Belmont Road, West Kirby, were relaid during 1907. A new sewer has been constructed from Market Street and across the railway to Carr's Lane, draining the Council's dépôt and the Electricity works, at a cost of £300. This provided work for many unemployed. It has been decided to construct a new main sewer from the Dee Lane Outfall, along the Parade, Riversdale Road, and Meols Drive, at an estimated cost of £2,800, which will dispense with the lift at present in use; and to undertake other improvements, including the re-laying of Lang sewer, at a self-cleansing gradient. The sewage outfall works at Sandy Lane (lately completed at a cost of £12,000) are working satisfactorily. The outfall works consist of three retaining tanks, built on three levels, to suit the levels of the three new outfall sewers. Flushing tanks have been made, which collect tidal waters to flush out the retaining tanks. At Knutsford, the new filter beds have been completed and are working well. The sewage disposal land for Lymm is kept under supervision, and continues to act well. At Marple the sewers and outfall works are efficient and need ventilation. At Middlewich, a comprehensive scheme for sewage disposal has been approved by the Local Government Board, and the first contracts for carrying out

the works have been let. The Local Government Board has granted the application of the District Council for sanction to borrow money for extension of sewers. The Report from Nantwich Urban District states that Mr. Baldwin Latham, C.E., has been retained to advise the District Council as to sewage disposal. He has submitted a scheme, requiring the acquisition of additional land, which the owners were unwilling to sell. A Provisional Order was applied for, to acquire the land otherwise than by agreement. The Inquiry in connection with this was held on January 17th, 1906. In due course the Provisional Order was obtained, and confirmed by Act of Parliament. Negotiations are proceeding between the Council and the various land owners concerned. Several new lengths of sewers have been laid.

Neston and Parkgate are sewered, and the extension needed is being provided. In the Report for 1903 it was mentioned that the contracts (amounting to £6,233) for the extension of sewers and construction of outfall works, had been let. Good progress had been made with this work in 1903 and 1904. In the latter year 1,718 yards of new sewers were laid. The septic tanks and newly constructed (double contact) bacteria beds are in working order. There is also a filter for storm water. In 1905 the sewers were extended 140 yards. In 1906 no new sewer was laid, but on November 21st an Inquiry was held by an Inspector of the Local Government Board, with reference to an application of the District Council, for sanction to borrow £1,639 for laying a new sewer from Gladstone Road, along Hinderton Road to the "Shrewsbury Arms." The Hinderton Estate is being developed by Sir Alfred Jones, for building land, and good houses are in course of construction on it. The Local Government Board have sanctioned the loan, and the sewer has been laid, consisting of 373 yards of 15 inch pipe, and 1,097 yards of 12 inch pipe. The outfall works consist of detritus tanks, septic tanks and primary and secondary contact beds.

The town of Northwich has made little progress of late in sewerage. The scheme for sewerage and dealing with the sewage of the Castle Ward of the Urban District at Winnington, in Northwich Rural District, may now be said to be complete, and is working well. The bulk of the Castle Ward sewage is being treated at the outfall. The scheme for sewerage the lower part of the town has taken longer to develop than was expected. The County Council have agreed to an arrangement by which some scheme for the better sewerage of the town shall be in course of operation in another year.

At Runcorn Urban District, prior to the making of the Manchester Ship Canal, seven sewers conveyed the sewage of the town into the River Mersey direct. After the construction of the canal, six of these sewers were diverted into an intercepting sewer of large capacity, which runs parallel to the canal, and is syphoned under it to discharge into tidal waters. The seventh sewer was culverted under the canal. The sewers are ventilated, and arrangements are provided for cleansing them. The work of improving the drainage of the town is carried on from time to time. At Sale the sewage disposal works are reported to be in good order. At Sandbach the sewage disposal works are still not working, and pollution of the local stream continues. The scheme referred to in the Annual Report for 1903, was not approved, and has been abandoned. New plans have been submitted to the Local Government Board, and, if approved, the work will be proceeded with. An Inquiry by an Inspector of the Board was held at the close of 1905, and in the Report for 1906 it was stated that the scheme has been approved and that tenders for the construction of sewage-treatment works had been invited. This scheme is now approaching completion. At Tarporley the extension of the sewers and the construction of outfall works were completed in 1904. The works continue in good order.

The Wallasey District Council's large scheme for reconstructing the main sewers, at the cost of about £30,000, was sanctioned in 1897, and the work was commenced at Leasowe Road in January, 1898. The work has been going forward ever since. In 1901 and 1902 parts of the town, where there was special need of sewer construction, appear to have been dealt with. During 1903, the outfall sewer north of Egremont Ferry, the outfall sewer in Maddock Road, and the outfall sewer in Magazine Lane, were constructed of cast-iron pipes of various diameters, and now discharge at extreme low-water level. The whole of the very defective sewers in Grosvenor Street, Westminster Road, Wilton Street, Eaton Street, and Belgrave Street, were removed, and new sewers laid in place thereof. In 1904 the most important work put in hand was the sewerage of a portion of the Leasowe Road section of the low-lying area of Wallasey, on Shone's system. Another important work was the removal of the defective sewer in Falkland Road and the construction of a new sewer. The work of repairing and re-inverting the main brick sewer along King Street was also commenced in 1904. Progress was made in this work at King Street, and similar work at Brighton Street in 1905. Under a special agreement with the Wirral Railway Company a sur-

face drain (12in. diameter) has been laid along Green Lane, Wallasey. A sewer has also been laid for the intended new street off Poulton Road, near the site for the proposed Council Schools. A long list of streets in which sewers have been reconstructed is given in the Wallasey Report. During 1907 a great deal of storm-water relief work was necessary. The results were very beneficial. A number of new man-holes, a flushing chamber, and ventilators have been put in. At Wilmslow the northern and southern portions of the main drainage scheme are in good working order, and so is the portion passing through Fulshaw Park, which was only completed in 1902. The filtration beds by the riverside at Winsford are said to work efficiently and economically. Though schemes for sewerage Yeardsley-cum-Whaley have been under consideration since 1895, the District is not yet sewerage. Several new drains have been made during 1907.

In the Rural Districts also sewerage and sewage works seem to have attention, but much remains to be done. In the Bucklow Rural District the scheme for draining Dunham Massey is being proceeded with. The new outfall was ready years ago, and the main sewer is nearly finished. The total cost of the scheme will be £16,150. Defective work was found in May, 1904, which was attributed to the contractors. A dispute arose, and all work was stopped. The contractor then took legal proceedings against the District Council. Though the contractor did not succeed, nearly a year's delay was caused. At Timperley the main sewer is a long one, with a faulty gradient, causing silting. The Northenden outfall seems to be fairly efficient, and a scheme is under consideration for its enlargement.

In Chester Rural District the Authority are desirous of having Christleton, (part of) Great Boughton, Upton, Newton, and Bache properly sewerage, and plans for sewerage these Townships to the City of Chester sewers have been prepared. The contract for the work has been let, and it is hoped the scheme will soon be completed. Sanction to borrow the money required has been obtained. The sewage will eventually be dealt with at the City outfall. The works for Christleton and Great Boughton were commenced in June, 1903. The sewerage of Christleton is just completed, and many private drains have already been constructed. The lift, which is to raise a small portion of the sewage, has, however, not yet been supplied with the water required to work it. The larger part of the sewerage of Great Boughton is finished, and house connections have been made. The sewers of the northern part of the township have been laid,

but are not yet provided with an outfall. The delay in this respect occurred in consequence of the exceptionally bad ground met with on the line originally intended to be followed, so that an alteration had to be made, and fresh powers obtained for the new plan. Part of Newton and part of Great Boughton are sewered to the City sewer, and are being extensively built upon. Eaton and Eccleston are sewered, and have outfall works for the purification of the sewage by the Amines process; and works for the purification of the sewage of Pulford, by septic tank and bacteria beds, were provided during 1901. The works were constructed, and have been maintained by the owner of the estate.

The Report from Congleton Rural District states that the sewers at Elworth and Rode Heath, constructed in 1901, have proved very beneficial to the districts they serve. The improvement effected in the drainage of Holmes Chapel for some time worked well; but latterly it has not been well maintained, and as a result a nuisance has been created. Complaints are made when the tanks are cleared out. There is still great need of drainage at Thurlwood and Kent Green. The irrigation grounds at Mow Cop, Mount Pleasant, and Lawton, are worked most satisfactorily. The sewage of the Village of Disley, completed in Midsummer, 1898, is working satisfactorily, but all connections of house-drains have not yet been made. Furness Vale, in the Disley District, is reported to be still without a proper system of sewerage and sewage-disposal. Attention is also drawn to the necessity of dealing with the sewage of Newtown, in the same District.

In Macclesfield Rural District 10 new houses have been drained into the sewers at Poynton, the number of houses now draining into these sewers being 497. As regards Malpas, the town is sewered to three outfalls, and at two of them the sewage is treated at bacteria beds in two tiers. In Nantwich Rural District plans and estimates for the sewerage of Haslington have been got out and forwarded to the Local Government Board, but after holding an Enquiry the Board declined to sanction the loan asked for. Complaints of pollution of the rivers Goyt and Bollin were received. A scheme of sewerage for Willaston is being considered. More drainage is needed at these villages and at Shavington, Church Coppenhall, and part of Audlem. The Report from Northwich Rural District states that the sewage of Winnington is now being efficiently treated. In 14 townships there are sewerage schemes. During the year 1907 the sewerage of Barnton was satisfactory, and the outfall works continue to do well. These works deal with the sewage of the low-

lying portion of the Village of Barnton. At Runcorn Rural District the Helsby Sewerage Scheme was completed in 1903, and the disposal-arrangements are being worked. They appear to be doing well. Good progress was made with alterations in Frodsham sewerage. Weston sewerage scheme is working satisfactorily. The scheme for Walton Inferior has been completed. The scheme for the sewerage of Halton, and connecting this township with Runcorn town system of sewerage, underwent revision in 1905. Nothing was done in 1906 or 1907 to carry out this scheme.

In Tarvin Rural District plans have been prepared for the purification of sewage at Tattenhall, Tarvin, and Barrow, but the District Council have not yet received sufficient support to enable them to proceed with these. At Barrow there have been serious complaints of pecuniary damage from the want of proper outfall works, and it is very desirable that these works should be proceeded with. The land required seems to have been arranged for. The works for the purification of sewage at Aldford by the "international" process, which commenced working in 1899, were re-constructed in 1903. At the sewage works at Eccleston Ferry, the Scott-Moncrieff process is in use.

In Wirral Rural District the works for sewerage of Little Sutton were completed in 1902. During the same year the Local Government Board sanctioned a loan of £27,500 for the purpose of carrying out the Fender Valley Sewerage Scheme, which provides for the construction of an outfall sewer, from Barnton to the culvert within the Borough of Birkenhead, and affords an outfall for the sewage of the Townships of Arrowe, Barnton, Bidston-cum-Ford, Landican, Moreton, Noctorum, Pensby, Prenton, Storeton, Thingwall, Upton, and Woodchurch. The western side of the township of Oxton, in the Borough of Birkenhead, can also, by arrangement, use the outfall. This important sewerage work was commenced in the early summer of 1903, and is now completed. It will be ready to convey sewage from the contributory parishes as soon as the sewers of these parishes are finished. The branch sewers were proceeded with in 1906 and 1907, and made good progress. At present, those for Bidston, Noctorum, Prenton, and the greater part of Upton are conveying the sewage of these places to the outfall sewer. Another sewer has been laid in Upton, and is ready to receive the remainder of the Upton sewage, and part of the sewage of Arrowe. From the Noctorum sewer there is an extension northward into the southern part of Bidston. Long-standing complaints of nuisance in Bidston have been remedied by improvements in old sewers. A small part of the sewage of Moreton is now going to

the outfall sewer. The remainder of the part of Moreton which will be served by the present scheme is now connected with the sewers. At Prenton, a considerable length of new sewer has been laid in Storeton Road, to take the place of the shallow sewer which previously existed in the part of the road immediately south of the "Halfway House." Sewers in roads in the neighbourhood of the reservoir have also been put in more satisfactory condition. The Joint Sewerage Scheme for the Townships of Childer Thornton, Hooton, and part of Eastham was completed and in operation early in 1896. The sewers at Great Sutton have been completed and in operation for some months. The sewers at Willaston and Gayton are at work, but all the Willaston sewers have not been completed, owing to unavoidable delay in construction at Hadlow Road ; the work is now proceeding. In 1906, at Thornton Hough, a Local Government Board Inquiry was held concerning the petition of the District Council for a Provisional Order, for compulsory powers of purchase of land for the purpose of sewage disposal. At Spital it was found necessary to proceed with the scheme referred to in the Annual Report for 1905, as the Local Government Board expressed unwillingness to give their consent to a scheme to be carried out by the Board of Guardians, for the disposal of the sewage of the Workhouse within the grounds of that institution. The Guardians have now carried out the work in accordance with this arrangement.

Flushing Sewers and Drains does not appear to be done at all generally, yet it is most useful work and will well repay time and money spent on it. In several of the Reports are references to the matter. At Dukinfield the sewers are said to be regularly flushed, especially in dry weather, and where there is not much fall. At Alsager the flushing is less well done than it would be if the water supply were more abundant. At Higher Bebington and Marple the flushing is done as required ; at Lower Bebington it is done fortnightly. At Bromborough and Hoole the flushing is done regularly. At Hoylake and West Kirby the sewers are flushed fortnightly ; while at Bredbury and Romiley they are flushed but six times a year. At Nantwich and Northwich the flushing is stated to be regularly attended to. At Neston and Parkgate the sewers are flushed every week. At Lymm the sewers are flushed every fortnight, and since this has been done no complaints of ill-odours in the streets have been received. A special flushing connection has been made from the water-mains. The report from Sandbach states that the sewers and drains are flushed. At Wallasey the flushing of the public sewers is in the hands of the Engineer's staff, and is regularly done. An enormous flushing tank has been procured for the purpose (with a 12in. outlet), holding 1,800 gallons, and systematic flushings with this

were begun early in 1898. Three separate gangs are employed for flushing the sewers and back passages. A tank holding 500 gallons is used for the branch sewers, and where the tanks are inapplicable (as in a back passage, etc.), hose piping is used. The flushing of house drains was, during 1897, transferred to the sanitary department. The men entrusted with this work have been formed into three gangs. Two of these gangs are occupied in systematic house-to-house flushing, and go over the whole district at least twice a year. The third gang attend to the flushing of drains at houses at which cases of infectious disease are reported, especially cases of typhoid fever, diphtheria, and scarlatina. Each gang has been provided with a set of Cooper's Patent Suction Pumps, and thus many drains found choked are cleared without the ground having to be opened.

In Wirral Rural District, the flushing of the sewerage systems at Eastham, Childer Thornton, Heswall, Upton, and Little Sutton is regularly attended to.

Sewer Ventilators.—From time to time complaints are made of effluvia from sewer ventilators. This is usually due to there not being sewer ventilators enough, or to the sewers being "sewers of deposit." If sewers were systematically flushed there would seldom be ground for such complaints. At Hyde, where there have been complaints of effluvia from sewers in a certain District, the Medical Officer of Health recommended the erection of ventilating shafts. At Northwich Urban District, ventilating shafts have been fixed on the main sewers from time to time, as they have been in many other towns. At Alsager tall ventilating pipes have been attached to trees and generally act very well; but during the summer, when the trees are in leaf, these ventilators are not as efficient as others.

At Wallasey there used to be complaints of effluvia from the man-holes. Of late these have not been numerous; however, the District Surveyor continues to erect ventilating shafts in suitable places, and also gas lamps which by a special arrangement, are connected to the sewer and so act as ventilators.

Pollution of Rivers and Streams.—A few notes in some of the Reports refer to this, and are not unimportant. At Crewe the pollution of the North and South Brooks by crude sewage and imperfectly purified effluents has been taken in hand, and a special Committee has been appointed to deal with it. Bacterial purification works have been constructed for dealing with about one-fifth of the sewage, and further works are under consideration.

The River Tame, which has again and again been referred to as very little better than an open sewer, is improved now that the joint sewerage scheme for Dukinfield and Stalybridge has been completed, and the sewage of these two Boroughs is being treated. At Bollington there have been in the past frequent complaints of river pollution, but a scheme for main drainage having been completed in the summer of 1905, probably the larger part of the pollution has been stopped. No complaints were made in 1907. The District Council have appointed a Special Sub-Committee to inspect the river, and to examine into the causes of its pollution. The investigations of this Committee have no doubt proved useful. "Practically," writes the Medical Officer of Health, "the whole District now has a main drain running through it." No doubt the River Bollin continues to be polluted, but measures are being taken to reduce this pollution.

The Medical Officer of Health for Nantwich Rural District reports that the streams entering this District from Staffordshire are generally polluted with refuse from mining operations.

On October 21st, 1898, the County Medical Officer of Health presented a Supplementary Report on the state and condition, with reference to their pollution, or otherwise, of all the rivers and streams in the Administrative County outside the area under the jurisdiction of the Mersey and Irwell Joint Watershed Committee; and a series of resolutions were passed relating to all the Sanitary Authorities referred to therein; in many instances the Clerk being instructed to write to District Councils, informing them that pollution of rivers and streams in their Districts was taking place, and requesting that Councils would forthwith take such steps as may be necessary for stopping such pollution, etc. The notes in some of the District Medical Officers' Reports relate to statements made in this Report, or to investigations undertaken in connection therewith. Some of them have just been referred to; other notes which gave particulars of arrangements made for preventing further pollution, by the construction of sewers and sewage-disposal works, were referred to under the heading "sewerage and sewage treatment."

The Rivers Pollution Prevention Act, 1893.—It may be well here to draw attention to an Act passed in 1893, with the object of strengthening the Rivers Pollution Prevention Act, 1876. It enacts that "where any sewage matter falls, or flows, or is carried into any stream after passing through or along a channel which is vested in a Sanitary Authority, the Sanitary Authority shall, for the purposes of Section 3 of the Rivers

Pollution Prevention Act, 1876, be deemed to knowingly permit the sewage matter so to fall, flow, or be carried."

Dwelling-houses unfit for Habitation.—Not much seems to have been done in the Administrative County during 1907 in closing houses unfit for habitation or rendering them habitable. At Dukinfield Borough a list was presented some years ago of 176 back-to-back houses, with full particulars thereon. This list, which includes all the back-to-back houses in the Borough, still has attention. The Report from Hyde states that most of the insanitary property mentioned in the Annual Report for 1905 has been put into sanitary condition, but there is other insanitary property requiring attention, and particulars of this are given. At Altrincham it was noticed in the Report for 1904, that suitable plans had been got out for 11 pairs of small dwelling houses, and 2 large dwelling houses for the very poor, at a small rent. Some of these have been built, and the District Council will go on with the second half of the scheme. In Northwich Urban District there appear to be a number of houses unfit for habitation. A Committee of Inspection is engaged in making a comprehensive survey of these houses. Owing to subsidence, general dilapidation is very common.

Considering so little is done, it is important to draw attention to the following passage in a circular issued by the Local Government Board in June, 1900—"Parliament has made it the duty of the Local Authority entrusted with the Laws relating to Public Health and Local Government to put in force from time to time, as occasion may arise, the powers with which they are entrusted so as to secure the proper sanitary condition of all the premises within the area under their control, and the Board would point out that a heavy responsibility rests with the Local Authorities if they fail to give effect to the intentions of Parliament in this matter."

Overcrowding.—Judging by the Reports, there is no great prevalence of overcrowding. In Altrincham it is stated 18 cases of overcrowding dwelling houses were dealt with by the Inspector in the course of the year. At Knutsford the house accommodation is insufficient, and some overcrowding seems unavoidable. Nine cases were dealt with in Northwich Urban District. In most of the West Cheshire Districts it is reported that cases of overcrowding occasionally occur, but they are infrequent.

The Housing of the Working Classes Act, 1890.—Houses unfit for human habitation can be generally more

satisfactorily dealt with under this Act than under the Public Health Act. This Act consolidates and amends many previous Acts on the same subject. Its object is to secure the closure of insanitary dwelling houses, and, when necessary, their demolition and replacement by sanitary dwelling houses. It is applicable throughout the United Kingdom.

Part 1—Unhealthy Areas.—It is made the duty of the Medical Officer of Health to officially inform his Authority when he finds (*a*) any houses, courts, or alleys are unfit for human habitation, or that (*b*) the narrowness, closeness, and bad arrangement, or the bad condition of the streets and houses, or groups of houses within an area, or the want of light, air, ventilation, or proper conveniences, or any other sanitary defect, make the given area dangerous or injurious to the health of the inhabitants of the area, or of their neighbours; and that the evils connected with such houses, courts, or alleys cannot be remedied otherwise than by an improvement scheme, for their re-arrangement and re-construction. And the Authority, if satisfied of the truth of the information thus given them, and of the sufficiency of their resources, are required to make a scheme for the improvement of the area. The Medical Officer of Health is required on complaint from ratepayers, to report on the condition of any area complained of as being unhealthy. The improvement scheme must provide for the re-housing of the members of the working classes displaced by it. In assessing compensation to be paid owners of houses in the condemned area, deductions are made for sanitary defects, and where a house cannot reasonably be made fit for human habitation, only the value of the land and building materials need be paid.

Part 2—Unhealthy Dwelling-houses.—It is made the duty of the Medical Officer of Health of every District to officially inform his Authority of any dwelling house which appears to him in a state so dangerous or injurious to health as to be unfit for human habitation; and he may be called upon, on complaint of householders, to report on the condition of any house. The Authority are required to cause inspections to be made from time to time of their District, to ascertain whether any dwelling-house is unfit for human habitation, and they must forthwith take the necessary proceedings, before a Justice, to obtain a closing order on receiving a report of a house unfit from their Officer. When a closing order has been made, and the Authority are of opinion that the dwelling-house has not been rendered fit for human habitation, they may order the demolition of the building, time being given the owner to attend and state his objections. It is also made the duty of the Medical Officer of Health to officially

inform his Authority of "obstructive" buildings. If any building in his District, though not in itself unfit for human habitation, stops ventilation, or otherwise conduces to make other buildings unfit for human habitation, or prevents proper measures being taken to abate nuisances, it is his duty to report the facts to his Authority, who shall order the demolition of the buildings, after compensating the owner.

Part 3—Working Class Lodging-houses.—By this part of this Act, which is "adoptive," power is given to Local Authorities to build lodging-houses, dwelling-houses, or cottages for the working classes, or to purchase or lease those existing, and make bye-laws for their regulation, and manage them. Power is also given to Local Authorities to acquire land for the purpose of this part of this Act.

The Housing of the Working Classes Act, 1894.—This explains the provisions of part 2 of the Housing of the Working Classes Act, 1890, with respect to borrowing under a scheme for re-construction

The Housing of the Working Classes Act, 1900.—This Act was passed to amend Part 3 of the Housing of the Working Classes Act, 1890, *i.e.*, the Part which deals with the provision of Working Class Lodging-houses. Previous to the passing of the new Act, a Local Authority, in the exercise of their powers under Part 3 of the Act of 1890, were not, as it was considered, enabled to provide lodging-houses for the working classes outside their District. This difficulty has been removed by Section 1 of the present measure, which provides that where any Council, other than a Rural District Council, have adopted Part 3, they may, for supplying the needs of their District, establish or acquire lodging-houses for the working classes under that Part outside their District. As regards Rural Districts, hitherto Part 3 of the Act of 1890 could only be adopted after the complicated procedure described by the proviso to Section 54, and by Section 55 of that Act, has been complied with. These enactments are repealed by the present measure, which (in lieu of the requirements prescribed by them) provides by Section 2. that the Council of every Rural District may, with the consent of the County Council, adopt Part 3 of the Act of 1890, either for the whole of their District or for any contributory place or places therein. The new Act also repeals certain portions of Section 65 of the Act of 1890, which deals with the mode of defraying expenses incurred in the execution of Part 3 of the Act. The expenses will continue to be borne as special expenses, unless on the application of the Rural District

Council, the County Council declare them to be general expenses. The area of charge will be that for which the part has been adopted. Sub-Section 1 of Section 5 of the new Act enables an Urban Council, with the consent of the Local Government Board, and a Rural Council, with the consent of the County Council, to lease any land acquired by them under and for the purposes of Part 3 of the Act of 1890 to any lessee for the purpose, and under the condition that the lessee will carry that Act into execution by building and maintaining on the land lodging-houses within the meaning of the Act. The Council must insert in every lease all necessary provisions for insuring the using of the land and buildings for such lodging-houses. In particular, provisions are to be inserted binding the lessee to build on the land as in the lease prescribed, and to maintain and repair the buildings, securing the use of the buildings exclusively as lodging-houses, and prohibiting any additions to, or alteration of the character of the buildings without the consent of the Council. There must also be inserted in every lease a provision for the re-entry of the Council on the land on the breach of any of the terms of the lease. Sections 61 and 62 of the Act of 1890, which contains certain provisions vesting in the Local Authority the management of lodging-houses established or acquired by them under Part 3 of the Act, and enabling them to make charges for the tenancy of the lodging-houses and bye-laws for their regulation, are not to extend to lodging-houses thus built and maintained.

If the Rural District Council make default in properly exercising their power of adopting and acting under Part 3 of the Act of 1890, they will be liable to have their powers transferred to the County Council, under Section 6 of the new Act. This Section provides that, if a Parish Council resolve that a Rural District Council ought to have taken steps for the adoption of Part 3 of the Act of 1890, or to have exercised their powers under that Part, and have failed to do so, the County Council may, if satisfied after due enquiry that the District Council have so failed, resolve that the powers of the District Council for the purposes of that Part shall be transferred to the County Council with respect to the parish, and they shall be transferred accordingly.

Section 7 deals with the determining of the compensation to be paid for taking land compulsorily for the purposes of Part 3. The compensation to be paid in such cases has, hitherto, been settled by a jury or by arbitrators, or an umpire appointed in the manner provided by the Lands Clauses Acts. It is now enacted that where land is acquired

under Part 3, otherwise than by agreement, any question as to the amount of compensation that may arise is to be determined, in default of agreement, by a single arbitrator, to be appointed and removable by the Local Government Board.

The Act does not extend to Scotland or Ireland.

It is a little surprising that not more action is taken under the Act of 1890. In some instances in which insanitary dwelling-houses were closed in the County in 1901, they were closed by means of an order under Section 97 of the Public Health Act, 1875. In some instances, apparently, houses unfit for habitation are not closed owing to the refusal of the Authority to put the Housing of the Working Classes Act into operation. For example, at Middlewich many houses have been reported to the District Council more than once, as unfit for habitation, and action has not been taken thereon. In the Report from the Borough of Macclesfield, it is stated that although there are still a large number of grossly insanitary houses in the Borough, the attempt to deal with them at one time by wholesale closing orders would only result in terrible overcrowding of other dwellings. Perhaps more might be effected if property owners would assist the Sanitary Authority in carrying out their reasonable requirements. The very moderate wages paid those belonging to the staple industry of this town prevents the Corporation undertaking any scheme for building workpeople's dwellings. It would be much more feasible for the Corporation to convert some of the existing insanitary dwellings into healthy ones. Where the property owner refuses to act on the suggestion of the Sanitary Authority or professes himself unable to carry out the reasonable and moderate requirements of the Authority, the Medical Officer of Health thinks it would be well for the Authority to purchase such houses at a moderate sum and put them into sanitary condition. He thinks this might be done without loss to the ratepayers. In the Report from Hale it is stated that the supply of houses for the working classes does not equal the demand. At Knutsford there is great need of considerable additions to the workmen's dwellings. A hope has been expressed that private enterprise would come to the aid of local workpeople. Failing such enterprise, it remains for the District Council to adopt the Housing of the Working Classes Act.

It is remarkable that, while in several Districts the common lodging-house accommodation is recognised to be unsatisfactory, no Authority in the County has built a lodging-

house for the working classes acting under powers which could be obtained by adopting Part 3 of the Housing of the Working Classes Act, 1890.

Possibly the new Act passed in 1903 may make it simpler for Town Councils and District Councils to provide better housing for the working classes.

The Housing of the Working Classes Act, 1903.—

This Act amends in several very important respects the law relating to the housing of the working classes, and facilitates very considerably the adoption and enforcement of the Housing Acts by local authorities.

Section 1 (1) provides that the maximum period which may in future be sanctioned as the period for which money may be borrowed by a local authority for the purposes of the "Housing Acts" shall be 80 years, and as regards money so borrowed, 80 years are substituted for 60 years in Section 234 of the Public Health Act, 1875. Further, Section 1 (2) provides that money borrowed under the Housing Acts shall not, as at present, be reckoned as part of the debt of the local authority for the purposes of the limitation or borrowing under Sub-sections 2 and 3 of Section 234 of the Public Health Act, 1875.

[In this connection the Local Government Board have already made it known that they proposed in future as a general rule, to allow the full term of 80 years for the repayment of money borrowed for the purchase of freehold land, and 60 years for the repayment of money borrowed for the erection of buildings. Where money has been borrowed in recent years for these purposes, the Board will be ready to consider applications for sanction to the re-borrowing of the outstanding balances for 80 or 60 years, as the case may be, from the date of the original borrowing.]

In London, a borough council may at present borrow, with the consent of the London County Council, under the Metropolis Management Act, 1855, but under Section 190 they are required, in order to form a sinking fund for paying off mortgages created under the Act, to set aside in every year a sum not less than 2 per cent. on the amount of the principal moneys secured thereby, which sum is to accumulate at compound interest. It is now provided, by Section 15 of the new Act, that for the purpose of carrying into effect the provisions of the Act as to the maximum period for which money may be borrowed, 80 years shall be substituted for 60

years in Section 27 of the Metropolitan Board of Works (Loans) Act, 1869, and such sum as will be sufficient, with compound interest, to repay the money borrowed within such periods, not exceeding 80 years, as may be sanctioned by the London County Council, shall be substituted for 2 per cent. in Section 190 of the Metropolis Management Act, 1855.

Under the existing Housing Acts, some of the functions of the Central Authority in regard to London are at present exercised by the Secretary of State, and some by the Local Government Board. Section 2 of the new Act makes provision for an Order in Council being made assigning to the Local Government Board any powers and duties of the Secretary of State under the Housing Acts, or under any scheme made in pursuance of those Acts and the powers of the Secretary of State under any local Act, so far as they relate to the housing of the working classes. Any such powers and duties so assigned will then become powers and duties of the Local Government Board.

The Standing Orders of the Houses of Parliament require that in all Bills for local Acts (including Bills to confirm Provisional Orders) WHICH GIVE POWER TO TAKE LAND COMPULSORILY OR BY AGREEMENT, clauses shall be inserted providing that the promoters of the Bill shall not in the exercise of such power acquire more than a prescribed number of houses occupied by persons belonging to the labouring class, unless they have obtained the necessary approval to a scheme for providing certain housing accommodation.

A Joint Committee of both Houses recommended last year that provision on the subject should be embodied in a general Act of Parliament. This was done by SECTION 3 OF THE NEW ACT, which will apply to all cases where, under the powers given by any future local Act or Provisional Order, or Order having the effect of an Act, land is acquired, whether compulsorily or by agreement, by any authority, company, or person, or where land is so acquired compulsorily under any general Act other than the Housing Acts. The Housing Acts are excepted because they contain special provisions on the subject.

Particulars of the requirements imposed on any such authority, company, or person are contained in the SCHEDULE TO THE ACT, which provides that if in any Borough, Urban District, or Rural Parish, the authority, company, or person, have power to take under the Act or Order under which the land is acquired, working men's dwellings occupied by thirty

or more persons belonging to the working class, they shall not enter on any such dwellings until the Local Government Board have either approved of the housing scheme, or decided that a scheme is not necessary. The schedule sets out generally the requirements of a housing scheme, and contains various provisions in relation to the making, enforcement, and modification of such schemes.

By section 10 of the Act of 1890, where outside London an official representation is made to the Council of a Borough or Urban District, with a view to their passing a resolution in favour of an improvement scheme under Part I. of the Act, and the Council fail to pass any resolution in relation to such representation or pass a resolution to the effect that they will not proceed with such scheme, the Local Government Board are empowered to direct a local enquiry to be held, and a report to be made to them as to the correctness of the official representation, and any matters connected therewith on which they may desire to be informed.

The powers thus given to the Board are supplemented by SECTION 4 (1) of the new Act. This enactment enables them, if, on the report made to them on an enquiry directed as above-mentioned, they are satisfied that a scheme ought to have been made for the IMPROVEMENT OF THE AREA to which the enquiry relates, or some part thereof, TO ORDER THE COUNCIL TO MAKE SUCH A SCHEME. The scheme may be ordered to be made under either Part I., or Part II., of the principal Act, and the Council may be ordered to do all things necessary under the Housing Acts for carrying the scheme so made into execution.

Where an order of this nature is made it will be the duty of the Council to make a scheme under Part I., or to direct a scheme to be prepared under Part II. of the principal Act, as if they had passed the resolution required under Section 4, or Section 39 (as the case may be) of that Act, and to do all things necessary under the Housing Acts for carrying the scheme into effect.

The Order of the Board will be ENFORCEABLE BY MANDAMUS.

It has hitherto been requisite under Section 7 of the Act of 1890, that, upon the completion of an improvement scheme under Part I. of that Act, the local authority should publish an advertisement stating certain prescribed particulars in a local newspaper during three consecutive weeks

in the month of September, or October, or November, and should, during the month next following the month in which the advertisement was published, serve certain prescribed notices. Moreover, any provisional Order made by virtue of Section 8 (4) of the Act of 1890 confirming an improvement scheme has, under Section 8 (6), required for its validity confirmation by Parliament.

SECTION 5 (1) of the new Act will enable the advertisements to be published for three consecutive weeks at any period of the year, and will allow the prescribed notices to be served during the thirty days next following the date of the last publication of the advertisement. Moreover, by SECTION 5 (2) an Order of the Local Government Board confirming an improvement scheme will be effective without confirmation by Parliament in certain circumstances.

SECTION 6 provides power to modify in certain cases schemes made under Parts I. and II. of the Act of 1890.

Cases sometimes occur where it will be found beneficial TO INCLUDE in a reconstruction scheme, under Part II. of the principal Act, some NEIGHBOURING LANDS, although not comprising buildings in themselves dangerous or prejudicial to health. SECTION 7 of the new Act will enable this to be done if the Council under whose direction the scheme is made are of opinion that the inclusion is necessary for making their scheme efficient. But where this course is adopted, the prohibition contained in Section 41 (2) of the Act of 1890 against giving any additional allowance in respect of compulsory purchase, in settling the amount of compensation, is excluded from application in the case of any land which may be thus included. The effect of the amendment of the law made by SECTION 7 is virtually to make the provisions of Part II. of the principal Act uniform with those of Part I. in this matter.

Where a Council desired to OBTAIN A CLOSING ORDER in regard to a dwelling-house in a state so dangerous or injurious to health as to be unfit for human habitation, it has hitherto been necessary for them, under the procedure prescribed by Section 32 of the Act of 1890, before they could obtain the order, to give notice to the owner or occupier of the house to abate the nuisance. The PROCEDURE IS NOW SIMPLIFIED as regards any dwelling-house which, in the opinion of the Council, is either (a) not reasonably capable of being made fit for human habitation, or (b) is in such a state that its occupation should be immediately discontinued. In

these cases the necessity for serving such a notice as above mentioned before obtaining a closing order is dispensed with by SECTION 8 (1) of the new Act, which further enables a justice to issue a summons for a closing order, and a closing order to be granted, though such a notice has not been served.

Section 34 of the Act of 1890 empowers the Council to demolish a house in respect of which an order for demolition has been made if the owner himself fails to comply with the order, and requires them to sell the materials, and after deducting the expenses of the demolition to pay the balance of money (if any) to the owner. There is, however, no provision to meet the case when the sale of materials does not cover the COST OF DEMOLITION. This is remedied by SECTION 9 of the new Act, which enacts that, where the amount realised by the sale of materials under Section 34 of the principal Act is not sufficient to cover the expenses incident to the taking down and removal of a building, the Council may recover the deficiency from the owner of the building as a civil debt, in manner provided by the Summary Jurisdiction Acts, or under the provisions of the Public Health Acts relating to private improvement expenses.

A more speedy and efficacious way of OBTAINING POSSESSION OF A HOUSE in respect of which A CLOSING ORDER HAS BEEN MADE, than that provided by Section 32 (3) of the principal Act is afforded by SECTION 10 of the new Act. Under its provisions the local authority may have recourse, whatever may be the value or rent of the house, either to the procedure prescribed by Sections 138 to 145 of the County Courts Act, 1888, or to that under the Small Tenements Recovery Act, 1838. The expenses incurred by the local authority in taking these proceedings can be recovered from the owner as a civil debt under the Summary Jurisdiction Acts. The power of enforcing the penalty provided for in Section 32 (3) of the principal Act will still remain.

The effect of SECTION 11 (1) of the new Act is to empower the Council if they PROVIDE LODGING-HOUSES for the working classes under Part III. of the principal Act, or if they SUPPLY HOUSING ACCOMMODATION under Part II. of the principal Act, or under any scheme made in pursuance of any of the Housing Acts, to provide and maintain, in connection with the lodging-house or dwelling accommodation, any building, adapted for use as a shop, any recreation grounds, or other buildings or land which, in the opinion of the Board, will serve a beneficial purpose in connection with the requirements of the persons for whom the lodging-houses or dwelling accommodation are provided.

Under Section 75 of the Act of 1890, a condition is implied in any contract made after August 14th, 1885, for the letting of a house or part of a house for habitation by persons of the working classes (as such letting is therein defined), to the effect that the house is at the commencement of the holding fit for human habitation.

As this enactment stood prior to the passing of the Act of last session, it would seem that there is nothing to prevent an agreement being made between the landlord and the tenant contracting themselves out of its provisions. Any such agreement made after the date of the passing of the new Act (August 14th, 1903) is made void by SECTION 12 of the new Act.

The service of notices and other documents is facilitated by SECTION 13 of the new Act.

SECTION 14 removes another difficulty which has been experienced in the administration of the Housing Acts in London. In cases where the London County Council carry out reconstruction schemes under the provisions of Sub-Section (5) of Section 46 of the principal Act, the Secretary of State is empowered by Sub-Section (6) of that Section, in certain circumstances, to order a payment or CONTRIBUTION towards the expenses of the London County Council to be made BY THE COUNCIL OF A METROPOLITAN BOROUGH, but hitherto, in the absence of such an Order, the Metropolitan Borough Council have had no power to make any such payment or contribution.

The new Act, by Section 14 enables a Metropolitan Borough Council, if they think fit, to pay or contribute to the payment of any expenses of the London County Council under Section 46 (5) of the principal Act in connection with a scheme of reconstruction, and to borrow any money required for the purpose under Section 46 (2), and provides that an Order of the Secretary of State, as above mentioned, shall not be necessary except in cases of disagreement between the County Council and the Council of the borough.

This Act does not extend to Scotland or Ireland. It came into force on August 14th, 1903.

The Employment of Children Act, 1903.—This Act, which may be notified here, as the only other Act passed in 1903 which is of importance from a public health point of view, is intended to make better provision for regulating

the employment of children. It provides (Section 1) that any Local Authority—that is, the Corporation of the City of London, the Town Councils of boroughs of over ten thousand inhabitants, the District Council of urban districts of twenty thousand inhabitants, and elsewhere the County Councils—may make bye-laws—

(i.) Prescribing for all children, or for boys and girls separately, and with respect to all occupations or to any specified occupation—

- (a) The age below which employment is illegal; and
- (b) The hours between which employment is illegal; and
- (c) The number of daily and weekly hours beyond which employment is illegal.

(ii.) Prohibiting absolutely or permitting, subject to conditions, the employment of children in any specified occupation.

Section 2 provides that any local authority may make bye-laws with respect to street trading by persons under the age of sixteen, and may by such bye-laws

- (a) Prohibit such street trading, except subject to such conditions as to age, sex, or otherwise, as may be specified by the bye-law, or subject to the holding of a licence to trade to be granted by the local authority;
- (b) Regulate the conditions on which such licences may be granted, suspended, and revoked;
- (c) Determine the days and hours during which, and the places at which, such street trading may be carried on;
- (d) Require such street traders to wear badges;
- (e) Regulate generally the conduct of such street traders;

Provided as follows:—

(1) The grant of a licence or the right to trade shall not be made subject to any conditions having reference to the poverty or general bad character of the person applying for a licence or claiming to trade.

(2) The local authority, in making bye-laws under this section, shall have special regard to the desirability of preventing the employment of girls under sixteen in streets or public places.

Section 3 contains general restrictions on the employment of children, as to the hours within which children shall not be employed, prohibiting the employment of children under eleven in street trading, etc.

Section 4 has some general provisions as to bye-laws, as to their submission to the Home Secretary for confirmation, as to their being made applicable either to the whole or part of the area of the local authority in each case, etc.

Section 5 prescribes the penalties for offences under the Act.

Section 6 deals with the liabilities of agents or workmen for offences under the Act; and Section 7 requires that proceedings for an offence must be instituted within three months after the commission of the offence.

Section 8 gives power to officers of local authorities to obtain justices' orders to enter places of employment; Section 9 deals with employment in factories; Section 10 has a saving clause for industrial and other Schools; Section 11 deals with the granting of licences to children under ten years; and Section 12 provides for the payment of expenses out of the County rate in the case of counties, out of the Borough Fund or Borough Rate in the case of boroughs, and out of any rate or fund applicable for defraying expenses under the Public Health Acts in the case of other urban districts.

The Act is made applicable to Scotland and Ireland, with the necessary modifications. It came into operation on January 1st, 1904.*

At a Meeting of the Public Health Committee held on October 23rd, 1903, the County Medical Officer of Health was instructed to report upon this Act, together with his recommendations (if any) thereon, and a brief Report was accordingly submitted in July, 1904. At a meeting of the

* By the Prevention of Cruelty to Children Act, which came into operation on October 1st, 1904. Sections 4 (6) and 11 of the Employment of Children Act, 1903, are repealed.

Public Health Committee held on October 21st, 1904, the County Medical Officer of Health stated the steps he had taken to obtain information with reference to the employment of children from the Councils of Boroughs and Districts in Cheshire, and from County Councils in England and Wales, and said that he could not recommend the framing of any bye-laws under this Act at present.

Public Health Act, 1904.—This is an Act, as its title states, “to enable Regulations to be made for carrying into effect conventions with respect to the prevention of danger arising to public health from vessels, and the prevention of the conveyance of infection by means of vessels.” The existing law contained ample provision for making regulations for the protection of this country against the introduction of infection from abroad by shipping, and already, with that object, the Local Government Board have from time to time made regulations, those at present in force being the Cholera, Plague, and Yellow Fever Regulations of 9th November, 1896. But it was found that the Board had no precise statutory power to make regulations of the same nature for enforcement in the case of vessels leaving this country, and seeing the freedom of this country from the diseases referred to and the high state of efficiency of the sanitary supervision at all our chief ports, foreign countries ran little risk from the absence of definite regulations on the subject. But the Paris International Convention of 1903 assumed that such regulations would be made and enforced, and consequently it became necessary to obtain from Parliament the definite power to make them before the Convention could properly be signed for England.

The Act consists of one section (apart from the short title), which it may be desirable to quote verbatim:—

“(1) The power of making regulations under the Public Health Act, 1896, and the enactments mentioned in that Act, shall include the power of making regulations authorising measures to be taken for the prevention of danger arising to public health from vessels arriving at any port, and for the prevention of the conveyance of infection by means of any vessel sailing from any port, so far as may be necessary or expedient for the purpose of carrying out any treaty, convention, arrangement, or engagement with any foreign country, and the regulations may in particular provide for the recovery of any expenses incurred in disinfection and of any charges authorised to be

made by the regulations for the purpose of those regulations or any services performed thereunder, and also for any powers and duties under the regulations being executed and performed by Local Authorities:

“Provided that the regulations shall not be made except after consultation with the Board of Trade.

“(2) In the application of this Act to Scotland, Part. IV. of the Public Health (Scotland) Act, 1897, shall be substituted for the Public Health Act, 1896.

“(3) This Act shall extend to the Isle of Man with the substitution of Section 8 of the Local Government Amendment Act (Isle of Man), 1897, for the Public Health Act, 1896.”

The Act came into force on its receiving the Royal assent on 15th August, 1904, and adds one more to the already numerous “Public Health Acts.”

New Houses and Building Bye-Laws.—The Medical Officers of Health in many Districts supply information as to the number of houses built, as some gauge of the progress made. Erecting new dwelling-houses is obviously the one effectual way of removing the only reasonable excuse for overcrowding; and if thoroughly good building bye-laws are in force in the District, and the houses are well built and drained, and fitted with proper sanitary appliances, the Local Authority is thereby placed in a better position for dealing with insanitary property. On the other hand, if there are no good building bye-laws in force, and each builder is under so little control that he is almost suffered to do what is right in his own eyes new buildings, instead of being a source of strength, are a source of weakness in a District.

At Crewe the number of new houses (91) for which “habitation certificates” were granted in 1907 compares unfavourably with the number (106) in 1906, and very unfavourably with the average in the seven years, 1898-1904, which was 253. In the Borough of Macclesfield also building operations appear to have been very limited in 1907, the sets of plans deposited were only for 13 houses. Model bye-laws are in force in the Borough, and it has been suggested that a Borough Surveyor should be appointed to see that they are properly carried out.

At Ashton-upon-Mersey new building bye-laws came into force in 1899. During 1907 there were 53 houses completed, 74

being certified for habitation. At Lower Bebington building went on vigorously during 1907, especially at Port Sunlight, where workmen's dwellings are excellent, and are occupied under favorable conditions. There were 59 new houses at Port Sunlight and 2 at New Ferry built in 1907. At Bollington new building bye-laws, which had been for some time under discussion, were passed on December 19th, 1903. At Bredbury and Romiley new building bye-laws were approved on February 8th, 1901. There were 10 houses erected in Bredbury and 23 houses erected in Romiley in 1907. At Cheadle and Gatley 23 new houses were built during 1907, the majority being of the small villa type, and situated in Cheadle Hulme. They all complied with the requirements of the District Council's bye-laws. The want of suitable small cottage houses is increasing yearly. At Ellesmere the model building bye-laws are in force. During 1907 the erection of 50 houses was supervised. At Hazel Grove and Bramhall excellent new bye-laws were approved by the Local Government Board in January, 1903. Plans for 122 houses were passed during 1907. At Hoylake and West Kirby plans were passed during the year for 47 new houses. At Lymm 13 new houses were erected and certified in 1907. At Marple 93 houses were completed and occupied in 1907. At Neston and Parkgate 20 new houses were completed and certified in 1907. At Sandbach there were 22 empty houses at the end of the year, and 3 houses were built in 1907.

Bucklow Rural District Council have a Building Committee to examine and report upon all plans for new buildings. During 1907, 73 new houses were completed and occupied. The building bye-laws came into operation on March 8th, 1900. In Chester Rural District the Model Bye-laws of the Local Government Board have been in force for some years. At Disley new building bye-laws are urgently needed.

Generally speaking, building operations do not appear to have been exceptionally active in Cheshire in 1907.

New Streets.—The work of making new streets proceeds but slowly. In Ashton-upon-Mersey, Cheadle and Gatley, Hale, Hazel Grove, Lower Bebington, Hoylake and West Kirby, in some of the populous parts of Bucklow Rural District, and a few other "residential" Districts, fair progress is made, but, generally, little seems to have been done.

In several Districts street improvements have been effected, footways have been flagged, and back passages have been paved. In some streets also additional lighting has been provided.

Education (Administrative Provisions) Act, 1907.

—This Act received the Royal Assent on the 28th August, 1907, and an Official Memorandum, dated November 22nd, 1907, on the Medical Inspection of Children in Public Elementary Schools, under Section 13 of the said Act, was issued by the Board of Education. This Memorandum deals with (1) The Scope and Purpose of the Act, (2) Organisation, (3) Subsidiary Agencies, (4) Character and Degree of Medical Inspection, (5) Regulations, and (6) Amelioration and Physical Improvement. In this Memorandum it is stated that the Act, in so far as it concerns the medical inspection of school children, is the outcome of a steady movement of public opinion throughout the entire community. For some years past evidence has been accumulating that there exists, in certain classes of the English people, a somewhat high degree of physical unfitness, which calls for amelioration, and, as far as possible, for prevention. The Legislature resolved that to grapple effectively with this problem, or at least part of it, it was necessary first to improve the health conditions, both personal, and in regard to environment, of the children of the nation. A consideration of the gravity of the need led to the conclusion that medical inspection of school children is not only reasonable but necessary, as a first practical step towards remedy. Without such inspection we not only lack data, but we fail to begin at the beginning in any measure of reform. The reasonableness of such inspection, if conducted on sensible lines, leading to an improvement of the surroundings, and physical life of the children, must become evident both to their parents and to the nation as a whole.

This Memorandum was followed by a Circular on the New Act, dated September 5th, 1907, in which each of the 17 Sections it contains, except Sections 13 and 16, is commented on. Another Official Circular, dated January 23rd, 1908, dealt especially with Section 13. It is addressed to Local Education Authorities, and accompanied by a Schedule of Medical Inspection, which indicates the particulars, attention to which the Board regard as constituting the minimum of efficient medical inspection.

Early in the year 1908, the County Elementary Schools Sub-Committee gave consideration to the Medical Inspection of School Children, and steps were taken to give effect to the new Powers given by the Education (Administrative Provisions) Act for the medical inspection of Elementary School Children. Subsequently the County Medical Officer was appointed Medical Inspector under the Education Committee, and two Assistants were appointed to act under his directions as Medical Inspectors,

to give the whole of their time to the work required by the Education Committee.

School Accommodation is a subject that may well come within the observation of the Medical Officer of Health, yet it is referred to in very few Reports. In the Borough of Crewe the Schools are inspected, and the teachers notify on forms supplied by the Authority any scholar suffering from measles, mumps, whooping-cough, chicken-pox, "fever," influenza, eczema and ring-worm. The Medical Officer of Health for Bredbury and Romiley inspects the elementary schools in his District, and finds them in order. The Medical Officer of Health for Cheadle and Gatley reports that he inspects the schools from time to time. The sanitary arrangements are satisfactory, and the playgrounds dry and well drained. The Medical Officer for Marple finds the local schools clean and well ventilated. The Medical Officer for Bucklow Rural District notes that the sanitary condition of the various schools and playgrounds in the District is generally satisfactory. Many of the teachers report cases which occur of non-notifiable diseases.

Memorandum on certain Infectious or Contagious Diseases for the Guidance of School Teachers.—Several reports of cases of infectious disease having been received from School Masters and Mistresses, and some of them having applied for information as to the early symptoms of such disease, it was thought advisable to furnish them with the guidance they required. Accordingly, the Medical Officer of Health was instructed to prepare a Memorandum on certain infectious or contagious diseases for the guidance of School Teachers. This Memorandum was printed and issued on December 23rd, 1907, and prints have since been placed in the hands of School Masters and School Mistresses of Elementary Schools in the Administrative County. The Memorandum is as follows :—

MEMORANDUM

ON

Certain Infectious or Contagious Diseases,**for the Guidance of School Teachers.**

As infectious or contagious diseases may be spread through attendance at School, it is important that School Teachers should have some knowledge of the symptoms of such diseases and their mode of propagation, as also the preventive measures to be adopted to ward off an attack. It is not necessary, and certainly not desirable, that children should have any of these ailments. As children grow older their susceptibility to be infected diminishes, and the disease is commonly less severe and less fatal.

When a School Teacher has reasonable ground for believing that a child is suffering from an infectious (or contagious) disease, the child (or in certain cases all the children from the same house), should at once be sent home, with a written note to the parents, asking them to have the ailing child examined by a Medical Practitioner without delay, and to keep all the children at home until the nature of the disease is made clear. The parents should further be asked to send word, in writing, to the Teacher, stating the nature of the disease, if possible, and whether or not, in the opinion of the Medical Practitioner, the child may safely return to School. In those cases where the child is prohibited from attending School on account of the nature of his or her illness, word should be sent immediately to the Medical Officer of Health, giving the name and address of the sick child.

Teachers must not take upon themselves to say whether a child is suffering from any particular disease. Only a Medical Practitioner is competent to decide on such a matter. All that Teachers are required to do is to be always on their guard against the introduction of infection into the School, to inquire carefully into every suspicious case, and when necessary, to act promptly as recommended above.

In the following diseases, all children from infected houses should be excluded from School, viz. :—small-pox, chicken-pox, measles, German measles, scarlet fever (known also as scarlatina), diphtheria, whooping cough, mumps and influenza. Some information about these diseases will be useful to teachers.

Small-pox.—A person infected with this disease ordinarily gives no indication of it for 10 to 12 days. Then there is a rise of temperature, headache, thirst, shivering fits, pain in the back, sickness and often vomiting. After 2 to 4 days of such symptoms red pimples usually appear, beginning on the forehead, neck and wrists. The pimples increase in size, and in 2 days turn into blisters. In 2 days more the fluid in the blisters becomes yellow pus. In about 5 days scabs form, and in another 5 days these fall off.

Infection is conveyed by the breath, all discharges, and particles of skin and scabs.

The sufferer should be excluded from School until certified to be free from infection by the Medical Officer of Health.

Children exposed to infection must be excluded from school for at least 15 days.

Occasionally small-pox is so mild, or so modified by vaccination, that the symptoms of the disease are very slight, and it may be mistaken for chicken-pox.

Chicken-pox. — A person infected with this disease ordinarily gives no indication of it for 12 or 14 days. There is scarcely any preliminary illness. Small red spots first appear, and about a day later become blisters, containing a clear colourless fluid. These soon burst, and yellow or brown scabs form. The blisters often appear in successive crops.

Infection is conveyed by particles of skin and scabs.

The sufferer should be excluded from school until the scabs have fallen off.

Children exposed to infection must be excluded from school for at least 15 days.

Measles.—A person infected with this disease ordinarily gives no indication of it for 10 to 12 days. The first symptoms are a rise of temperature, running from the nose and eyes, sneezing, and sometimes aching pains. In from 2 to 4 days appears a rash of small pink or purple spots, which begins on the face and later is distributed all over the body. The face looks swollen and the eyes heavy and congested, as if the sufferer had a bad cold in the head. As the rash fades the skin begins to peel off in small scales like scurf.

Infection is conveyed by the breath, all discharges from the nose and mouth, and all particles of skin.

The sufferer should be excluded from school until peeling of the skin is completed—usually not less than 4 weeks.

Children exposed to infection must be excluded from school for at least 15 days.

Measles is often infectious before the earliest symptoms are manifested, and for this reason prompt recognition is most important.

Children having measles should be put to bed as soon as possible and kept warm.

German Measles.—A person infected with this disease ordinarily gives no indication of it for 12 days. The first symptoms may be those of a slight cold in the head, but there is generally a sore throat. Often the rash is the first sign noticed. The rash is pink, like that of scarlet fever, and chiefly noticed on the face. Peeling of the skin is very slight, and may not occur at all.

Infection is conveyed by the breath, and discharges from the nose and mouth.

The sufferer should be excluded from school for not less than two weeks.

Children exposed to infection must be excluded from school for 18 days.

German measles is sometimes mistaken for measles and sometimes for scarlet fever.

Scarlet Fever (or Scarlatina).—A person infected with this disease ordinarily gives no indication of it for about half a week. However, the latent period varies from a few hours to a week. The first symptoms are commonly headache, sickness, sore throat and rise of temperature with a hot dry skin. Then a bright scarlet rash appears on the face and neck, extending to the chest and the rest of the body. As the rash fades, peeling of the skin takes place in flakes. The peeling may go on for 6 weeks or more. The tongue is coated with white fur pierced by bright red spots. Later there is often a discharge from the ears and puffiness under the eyes.

Infection is conveyed by the breath, discharges from the nose and mouth, and by portions of skin.

The sufferer should be excluded from school until peeling of the skin is completed, and the throat and ears are well. Indeed, so infectious is this disease when the sufferer has to all appearance recovered, that it is wise to exclude a convalescent from school till certified to be free from infection by the Medical Officer of Health. This may be 5 or 6 weeks after the patient has been discharged from Hospital.

Children exposed to infection should be excluded from school for 10 days.

Some cases of scarlet fever are so mild, that no rash or other symptoms may be noticed. Such cases, though they escape recognition, are still very infectious.

Diphtheria.—A person infected with this disease ordinarily gives no indication of it for about half a week. The main symptom is sore throat, which is usually accompanied with foul breath, marked weakness and depression, and sometimes with headache and shivering. There is also a rise of temperature. Then whitish patches occur on the throat, and frequently swelling of the glands below the angle of the jaw.

Infection is conveyed by the breath, and all discharges from nose and mouth.

The sufferer should be excluded from school until certified to be free from infection by the Medical Officer of Health. This may be 5 or 6 weeks after the patient has been discharged from hospital.

Children exposed to infection should be excluded from school for 10 days.

Some cases of diphtheria are so mild as to escape recognition, yet they may infect others.

Whooping Cough.—A person infected with this disease ordinarily gives no indication of it for from 4 to 14 days. The first symptoms are those of a common cold and a chest cough, which may continue about a week. Then the characteristic fits of coughing come on, each ending with a long drawn whooping inspiration. Not infrequently the eyes are bloodshot and there is occasional bleeding at the nose or even vomiting.

Infection is conveyed by the breath and all discharges from the nose and mouth.

Until all cough has ceased, usually not less than 8 weeks, the sufferer should be excluded from school.

Children exposed to infection should be excluded from school for 18 days.

Any cough severe enough to cause vomiting should be regarded as very suspicious.

Mumps.—A person infected with this disease ordinarily gives no indication of it for 2 or 3 weeks. The first symptoms are commonly pain and stiffness of the jaws, followed by swelling in front of the ears, and under the jaws.

Infection is conveyed by the breath, and all discharges from the nose and mouth.

The sufferer should be excluded from school until the symptoms have disappeared, usually 3 or 4 weeks.

Children exposed to infection should be excluded from school for fully 3 weeks.

Influenza.—A person infected with this disease ordinarily gives no indication of it for from 2 to 5 days. Pain in the head and back and limbs, and feverishness are commonly the first symptoms, and

may come on quite suddenly. Not infrequently there are also the signs of a bad cold. Often there is a feeling of great prostration.

Infection is conveyed by the breath and all discharges from the nose and mouth.

The sufferer should be excluded from school until the symptoms have disappeared, usually 2 to 4 weeks.

Children exposed to infection should be excluded from school for a week.

In the following diseases, only children actually suffering therefrom should be excluded from school; viz. :—typhoid fever (known also as enteric fever), erysipelas, itch, ringworm, lice, scald head and ophthalmia. Some information about these diseases will be useful to teachers.

Typhoid Fever (or Enteric Fever).—A person infected with this disease ordinarily gives no indication of it for 2 or 3 weeks. The usual symptoms are rise of temperature, headache, shivering, languor and diarrhœa. After some days a rose-coloured rash appears on the abdomen, but this may escape observation, being mistaken for fleabites. In some cases there is neither rash nor diarrhœa.

Infection is conveyed by discharges from the body, especially the bowel discharges.

The sufferer should be excluded from school till quite recovered, usually not less than about 5 weeks.

Children suspected of having typhoid fever should be put to bed as soon as possible and examined by a Medical Practitioner.

Erysipelas.—A person infected with this disease ordinarily gives no indication of it for 3 or 4 days, then there is a rise of temperature and feverishness, followed in a day or two by red tender spots about the nose, mouth, ears or other parts of the head, or on the arm or leg, &c., perhaps being round a wound. The affected part swells, and pits when pressed by a finger. Later the skin cracks and comes off in flakes.

Infection is conveyed by portions of skin.

The sufferer should be excluded from school until swelling and redness has disappeared and peeling of the skin has ceased, which may be about 4 weeks.

Itch.—This is due to an insect which burrows beneath the skin, especially at the base of the fingers and at the wrists. The rash thus formed is very irritable, especially when the sufferer is warm in bed. Small pimples, blisters and scabs are noticed, especially between the fingers, and the child frequently scratches the affected parts.

This disease is readily conveyed by direct contact.

The sufferer should be excluded from school until complete recovery is indicated by entire disappearance of the rash.

Ringworm.—This disease is not uncommon among children. It is due to a minute fungus, the cells of which become detached and are carried to other persons by direct contact, or by hair brushes, caps, hats, towels, bed clothes, &c. The disease in the head is indicated at first by a round patch with scanty hair and then the patch becomes quite bald and covered with scurf. The outer edges of the ringworm are raised. The rings (which vary in size) sometimes occur on the face, hands and other parts. They are usually covered with a kind of scurf.

The sufferer should be excluded from school as long as there is any scurfiness of the affected part.

Lice on the head or body not uncommonly infect school children, and Teachers should always be on the alert to detect any child troubled in this manner. As other children may be readily contaminated, a child found to be infected with lice should be at once sent home and excluded from school till quite free from them.

Scald Head.—Blisters, with redness around them, appear on the face, angles of the mouth, &c., and in a few days these blisters are found full of yellow pus. Afterwards they burst and form large scabs.

This disease is most common in under-fed children, and is very catching.

The sufferer should be excluded from school until complete recovery.

Ophthalmia, or contagious inflammation of the eyes, is indicated by the swollen condition of an eye or both, and continuous running therefrom. The affected eye is so sensitive to light that little use can be made of it. Soon yellow pus is discharged and a portion may crust at the edge of the eyelid.

Infection is conveyed by some of the discharge from the eyes, which is soon transferred to the child's hands, handkerchief and pinafore, and thus to other children.

The sufferer should be excluded from school until all trace of discharge from the eyes has disappeared.

FRANCIS VACHER,

County Medical Officer of Health.

December 23rd, 1907.

The Factory and Workshop Act, 1901, which came into force on Jan. 1st, 1902, repeals all the existing Factory and Workshop Acts, and consolidates, with numerous amendments the provisions they contain. The changes introduced into the law by the new Act have rendered necessary a complete revision of the Abstracts used under the new Act, and on and after January 1st, 1902, it became necessary to substitute the new Workshop Abstract for that in use in 1901. A circular letter has been issued by Dr. Whitelegge, Chief Inspector of Factories and Workshops, calling attention to the principal changes affecting workshops which have been made by the Act, and which are embodied in the Abstract. This circular letter and new abstract have doubtless been received and studied by all Medical Officers of Health.

The Act comprises 163 sections and several schedules grouped under ten parts. The provisions which impose duties and powers on District Councils and their Officers may be summarised as follows :—

Section 1 amends section 91 of the Public Health Act, 1875, so far as factories, workshops, or workplaces, are concerned. It provides that :—

“(1) The following provisions shall apply to every factory as defined by this Act, except a domestic factory :—

“(a) It must be kept in a cleanly state ;

“(b) It must be kept free from effluvia arising from any drain, water-closet, earth-closet, privy, urinal, or other nuisance ;

“(c) It must not be so overcrowded while work is carried on therein as to be dangerous or injurious to the health of the persons employed therein.

“(d) It must be ventilated in such a manner as to render harmless, so far as is practicable, all the gases, vapours, dust, or other impurities generated in the course of the manufacturing process or handicraft carried on therein that may be injurious to health.

“(2) The provisions of section 91 of the Public Health Act, 1875, with respect to a factory, workshop, or workplace, not kept in a cleanly state, or not ventilated, or overcrowded, shall not apply to any factory to which this section applies.”

The section further requires the periodical cleansing of all inside walls of factories, etc., except where a special exemption has been granted by the Secretary of State.

Section 2 deals with the sanitary condition of workshops and workplaces not included in the term "factory" as defined by the Act. To such places section 91 of the Public Health Act, 1875, is to apply, and the District Council, acting on the certificate of their Medical Officer of Health or Inspector of Nuisances, are given more definite and stringent powers than they have hitherto possessed of enforcing proper sanitary conditions.

Section 3 deals with overcrowding and section 4 empowers the Secretary of State, if he is satisfied that the provisions of the Act, or of the law relating to public health, in so far as it affects factories, workshops, and workplaces, have not been carried out by any District Council, to authorise an Inspector to take such steps as may be necessary for enforcing those provisions and recover the cost from the District Council.

Section 5 gives the Factory Inspector powers to enforce the amendment of defects in factories or workshops remediable by the Sanitary Authority when the District Council have neglected to take the necessary steps on their own initiative, and sections 6, 7, 8, and 9, contain provisions as to the temperature in factories and workshops, their ventilation, the drainage of their floors, and the provision in them of sufficient and suitable sanitary conveniences.

Sections 10-18 relate to precautions for the safety of workers, such as the fencing of machinery, the provision of means of escape in case of fire, etc. In connection with this matter section 15 provides that "every District Council shall, in addition to any powers which they possess with reference to the prevention of fire, have power to make bye-laws providing for means of escape from fire in the case of any factory or workshop, and sections 182 to 186 of the Public Health Act, 1875, shall apply to any bye-laws so made." In London, this matter is to be dealt with by the London County Council instead of by the Local Sanitary Authority (see section 153).

In connection with dangerous and unhealthy industries, it may be noted that section 73 requires that every medical practitioner attending on or called in to visit a patient whom he believes to be suffering from lead, phosphorous, arsenical, or mercurial poisoning, or anthrax, contracted in any factory or workshop, shall send to the Chief Inspector of Factories at the Home Office, London, a notice, stating the name and full postal

address of the patient, and the disease from which in the opinion of the medical practitioner, the patient is suffering, and shall be entitled for each notice to a fee of two shillings and sixpence.

Bakehouses are specially dealt with in sections 97-102. Section 97 prescribes the sanitary regulations for bakehouses; section 98 imposes a penalty for a bakehouse being unfit for the purpose on sanitary grounds; sections 99 and 100 provide for the periodical limewashing, painting, etc., of bakehouses, and require proper regulation of sleeping places near bakehouses; section 101 prohibits underground bakehouses, except where they were so used at the passing of the Act; and section 102 imposes on District Councils the duty of enforcing these provisions as to bakehouses.

Laundries are dealt with under section 103, which applies certain provisions to "every laundry carried on by way of trade, or for purposes of gain," but exempts (sub-section 4) any laundry in which the only persons employed are (a) inmates of any prison, reformatory, or industrial school, or other institution, for the time being subject to inspection under any Act other than this Act; or (b) inmates of an institution conducted in good faith for religious or charitable purposes: or (c) members of the same family dwelling there; or, in which not more than two persons dwelling elsewhere are employed.

"Home-work" is dealt with in Part 6 of the Act (sections 107-115). Section 108 enables a District Council to prohibit, under penalty, the giving out of work to be done on particular unwholesome premises, and section 109 imposes a penalty on the occupier of a factory if he gives out "wearing apparel to be made, cleaned, or repaired in any house or building occupied therewith, whilst any inmate of the dwelling-house is suffering from scarlet fever or small-pox." Under section 110, if any inmate of a house is suffering from an infectious disease, the District Council of the District may make an order forbidding any work to which the section applies to be given out to any person living or working in that house.

Section 125 provides that "for the purpose of their duties with respect to workshops and workplaces under this Act, and under the law relating to public health, the District Council and their Officers shall, without prejudice to their other powers, have all such powers of entry, inspection, taking legal proceedings, or otherwise, as an Inspector under this Act."

Under section 131 every District Council shall keep a register of all workshops situate within their district, and under

section 132 the Medical Officer of Health of every District Council shall, in his Annual Report to them, report specifically on the administration of this Act in workshops and workplaces, and he shall send a copy of his Annual Report, or so much of it as deals with this subject, to the Secretary of State.

Section 133 provides that "where any woman, young person or child, is employed in a workshop in which no abstract of this Act is affixed as by this Act required, and the Medical Officer of the District Council becomes aware thereof, he shall forthwith give written notice thereof to the Inspector for the District."

By section 154 references in this Act to a District Council, and the District thereof, shall be construed as including references to the Council of a County Borough, and the County Borough; and section 155 provides that the powers conferred by this Act on District Councils shall be in addition to, and not in substitution for, any other powers which they may possess.

The Act applies to Scotland and Ireland as well as to England and Wales.

In nearly all the Annual Reports are references to the new Factory and Workshop Act, and in many are statements as to factories and workshops inspected during the year. The Reports are nearly all according to a form supplied, and deal with many details as required. As this Act has now been in force for three years, Medical Officers of Health have become familiar with the new duties imposed upon them, and these seem generally to be carried out efficiently in the Boroughs and Districts in the County.

Lodging Houses.---Common lodging-houses, that is lodging-houses in which persons of the poorest class are received for short periods, and though strangers to one another, are allowed to inhabit one common room, were doubtless fairly well inspected, but the fact that every common lodging-house must be registered seems to have been overlooked in some districts.

At Crewe the number of common lodging-houses on the Register is 7. These are fairly well conducted. The Authority do what is possible to see that the premises are kept in good sanitary condition. The defective structural character of the buildings makes this difficult. In all 129 beds are provided. There are, however, very many private houses where labourers and other working men in steady employment lodge.

At Hyde there are 3 common lodging-houses, which, together, provide accommodation for 85 lodgers. During 1906 an application to be registered as a common lodging-house keeper was refused, on the ground that there was no need of additional accommodation, and that the premises were unfit for the purpose. The 3 houses in use are imperfect structurally, badly ventilated and difficult to keep clean. The record from the Borough of Macclesfield is no better. The common lodging-houses there are 8 old buildings, not well suited for the purpose. Medical Officers of Health for the Boroughs point out that the remedy for this extremely unsatisfactory state of things is the erection of a Municipally-owned lodging-house. Such houses, if well conducted, might prove profitable instead of adding to the local rates. No steps have been taken to provide such lodging-houses, though they are much needed. The Medical Officer of Health for Stalybridge has visited the registered lodging-houses in his Borough frequently, and has found them fairly sanitary. He has lists of lodgers sent to him every week during the year. At Altrincham there were 45 inspections of lodging-houses made in 1907, and the lime-washing was enforced. At Lower Bebington the number of common lodging-houses was reduced from 4 to 2 in 1906. They were visited monthly and found to be well kept. A short time since there were 16 registered lodging-houses in the District. New bye-laws have been in force since 1899. At Hollingworth there is but one common lodging-house, and at Mottram but one; these are kept clean and in order. In the town of Nantwich there are 5 houses on the Register. During the year they were visited almost daily, and found in a clean and orderly condition. The town of Northwich has 7 common lodging-houses on the Register. These have been periodically visited by the Inspector. In Runcorn Urban District the common lodging-houses were visited 297 times during 1907, by the Inspector, and he found no cause of complaint. At Sandbach are two large lodging-houses, duly inspected and kept in order. At Wilmslow the lodging-houses have been inspected and found in good order.

At Winsford are two lodging-houses, all inspected and found satisfactory. At Malpas also there are three lodging-houses, all inspected. In Congleton Rural District are six common lodging-houses, which have been inspected and found in good order. The lodging-houses in Runcorn Rural District are visited from time to time. At Dukinfield, Higher Bebington, Cheadle and Gatley, Hale, Knutsford, Lymm, and in the Nantwich Rural District, and Tintwistle Rural District, there are no common lodging-houses.

The Cleansing of Persons Act, 1897.—As a want of personal cleanliness is not unusual amongst those who frequent common lodging-houses, a note on this Act may be appropriately introduced here. Its object is to “permit Local Authorities to provide cleansing and disinfection for persons infested with vermin.” By Section I. it is enacted that any Local Authority shall have the power, when in their discretion they shall see fit, to permit any person who shall apply to them on the ground that he is infested with vermin, to have the use, free of charge, of the apparatus (if any) which the Authority possesses for cleansing the person and his clothing from vermin. The use of such apparatus is not to be considered to be parochial relief or charitable allowance to the person using the same, or the parents of such person, and no such person or parent shall by reason thereof be deprived of any right or privilege, or be subject to any disqualification or disability. Local appliances, and attendants that may be required for carrying out the Act, and any expenses for these purposes may be defrayed out of any rate or fund applicable by the Authority for general sanitary purposes or for the relief of the poor. The term “Local Authority” means in England the Council of any County Borough, the District Council of any District, any Board of Guardians, and in the County of London any Sanitary Authority as defined in the Public Health (London) Act, 1891.

There is no mention of any action under this Act, except a statement that the Board of Guardians for the Bucklow Union have provided a steam disinfector for cleansing the garments of all vagrants received into Union premises.

Houses Let in Lodgings.—Any Local Authority may, with the consent of the Local Government Board, make bye-laws for fixing the number of persons who may occupy a house or part of a house which is let in lodgings and for the separation of the sexes in a house so let; also for the registration and inspection of houses so let, for enforcing drainage and the provision for privy accommodation, and for promoting their cleanliness and ventilation for the cleansing and limewashing of the premises at stated times, and the paving of court yards, and for the giving of notices and taking precautions in case of any infectious disease. This is a very useful power (enabling Authorities to have control over a class of lodging-houses which could not be regulated as common lodging-houses) and to assist Authorities in making use of it, model bye-laws have been issued. Still, it appears that only two Districts in the County (Crewe and Wallasey) have bye-laws relating to houses let in lodgings.

The bye-laws have been in force in Crewe since 1877. The bye-laws for Wallasey only received the sanction of the Local Government Board early in 1897. In Wallasey the houses on the Register are regularly visited in the daytime, and occasionally at night. The proper cleansing of rooms, passages, staircases and yards is insisted on.

Water Supply.—By the Public Health Act, 1875, power is given to Local Authorities to construct necessary water-works, two months' notice of their intention being given to allow of objections being heard by the Local Government Board. The supply must be maintained pure and wholesome, and at a pressure which will carry it to the top storey of the highest dwelling-house in the district supplied. The Authorities may supply to public baths or wash-houses, or for trade purposes on terms agreed on, or may gratuitously supply public baths or wash-houses, established otherwise than for private profit; and Urban Authorities must provide and maintain fire-plugs, etc., for securing a sufficient supply in case of fire. When the water of any well, tank, cistern, or pump, used for drinking purposes, is reported to an Authority to be so polluted as to be injurious to health, they may apply to a Court of Summary Jurisdiction, and the Court may cause the water to be analysed at the cost of the Local Authority, and may make an Order temporarily or permanently closing the well. Where, on the report of the Surveyor of a Local Authority, it appears to such Authority that any house within their District is without a proper supply of water and that such a supply of water can be furnished thereto at a cost not exceeding the water-rate authorised by any local Act, in force within the District, or, where there is not any local Act in force, at a cost not exceeding twopence a week, or at such other cost as the Local Government Board may, on the application of the Local Authority, determine under all the circumstances of the case to be reasonable, the Local Authority shall give notice in writing to the owner, requiring him, within a time therein specified, to obtain such supply, and do all such works as may be necessary for that purpose. If such notice is not complied with within the time specified, the Local Authority may obtain such supply, and water-rates may be made and levied on the premises, and any expenses thus incurred by the Authority may be recovered in a summary manner from the owner of the premises; or may, by order of the Authority, be declared to be private improvement expenses.

The Public Health (Water) Act, 1878, amends the Public Health Act, 1875, so far as relates to water supply.

It makes the duty of every Rural Sanitary Authority to see that every occupied dwelling in their District has, within a reasonable distance, an available and sufficient supply of wholesome water. If the Medical Officer of Health or Inspector report that a house is without water supply, and the Authority are of opinion that it can be provided at a reasonable cost, not exceeding a capital sum, the interest on which at the rate of five per cent. per annum would amount to twopence per week, or at such other cost not exceeding a capital sum the interest on which at the rate of five per cent. per annum would amount to threepence per week, as the Local Government Board, may, on the application of the Local Authority, determine under all the circumstances of the case to be reasonable, (etc.); they shall serve a notice on the owner, requiring him, within a specified time, to provide a water supply, and at the expiration of this time, if the notice is not complied with, the Authority may serve another notice, stating that if the requirements of the first notice are not complied with within a month, they will provide such a supply, and recover the expenses from the owner. This provision does not exempt the Authority from the duty (imposed on them by the Public Health Act, 1875) of supplying their District in cases where danger arises to the health of the inhabitants from the insufficiency or unwholesomeness of the existing supply and a general scheme of supply is required, and such supply can be got at a reasonable cost. It is not lawful in any Rural District for the owner of a dwelling-house, built or rebuilt from the ground floor after the date of the commencement of this Act, to allow the same to be occupied without having obtained a certificate from the Sanitary Authority that a sufficient supply of wholesome water is available. It is made the duty of the Rural Authority, from time to time, to ascertain the condition of the water supply within their District.

These powers would be sufficient to enable every Authority to obtain an adequate and wholesome supply for every household if it were not for the restrictions conveyed in the words "reasonable cost." It often happens that the Medical Officer of Health, Surveyor, or Inspector, reports that a house is without a sufficient supply of wholesome water, but the Authority are not of the opinion that the supply can be provided at a reasonable cost, and so no action is taken; again, supposing danger arises to the health of the inhabitants of a District from the insufficiency or unwholesomeness of the existing supply, and a general scheme of supply is required, if such supply cannot be got at a reasonable cost, the supply is not got. It thus happens that powers relating

to the provision of water in the Public Health Act, 1875, and the Public Health (Water) Act, 1878, are in great part inoperative. The Local Authorities are not to blame for this, for often supplying an outlying farmhouse or carrying out a general scheme of supply in a remote, sparsely populated District, is manifestly such an expensive undertaking it would be impossible to be of opinion that the work could be done at reasonable cost. No one is particularly to blame, but as long as the powers given have such limitations, the water supply in many Districts will be insufficient, and shallow wells, liable to pollution from the surface will be used.

The Reports from the towns are as follows:—At Congleton Borough the service is constant, and during 1906 water rights were purchased which have increased the supply by 88,000 gallons per day. The Borough now has 26 gallons per head per day of excellent water. The supply for the Borough of Crewe is from artesian wells at Whitmore. It is tested from time to time and found uniformly good. The quantity of water used in 1907 was equal to 12.2 gallons per head of the population per day. Dukinfield, with Ashton-under-Lyne, and Mossley, in Lancashire, and Stalybridge, jointly own the District Waterworks. The water is gathered from springs and streams in the Swineshaw Valley, and is pure and abundant. The gross supply for Dukinfield in 1907 was almost 20 gallons per head per day. The supply being deficient in dry seasons (as in 1901), a new reservoir has lately been made. This water, though very pure, is very soft, and when in 1901 it had to be cut off at night during parts of the year some cases of lead poisoning occurred. The water reservoirs are stocked with trout of good size and quality. Manchester Corporation water has been supplied to the higher parts of the Borough of Hyde since 1893. It comes from the reservoirs at Woodhead, and is abundant and of good quality. Water for trade purposes is obtained from the reservoirs of Hyde Corporation situated at Gee Cross. Four hundred houses in Newton have supplies from wells, and from a private reservoir, complaints have been received from time to time, though no ill results can be traced. The Corporation have decided to build 2 new reservoirs, which will convey the Woodhead water to all parts of the Borough not already supplied. At the Borough of Macclesfield the general water supply has been abundant, and usually of good quality. It has from time to time been examined chemically, and bacteriologically. During 1902 the Town Council made application to the Local Government Board for sanction to borrow £2,500, for the purchase of Lower Ridgate Farm, Sutton, which abuts on the upper

storage reservoir of the Town's Water Supply, and had been polluting the water. In September the sanction asked for was obtained. The reservoirs are stocked with trout. During 1907 there were several complaints as to the quality of the water. After chemical analysis a satisfactory report was received, but a bacteriological examination of three samples showed that they all contained *BACILLUS COLI*, and that the water was liable to pollution. In 1904, samples of the town's water, the Hollin's Mount water, and the Hurdsfield water were submitted for chemical analysis and bacteriological examination. The Borough Analyst's opinion thereon is as follows:—"These three waters are free from odour or taste. They are neutral. No poisonous metals were present. The town's water and Hurdsfield water contain a slight sediment. I am of opinion that these waters are of excellent quality and well suited for all purposes." The certificate from the Lister Institute of Preventive Medicine, on the bacteriological examination of the waters conclude in the following words:—"The town's water shows great improvement when compared with the results obtained previously; but the waters from Hollin's Mount and Hurdsfield seem to be in the same condition as they were when the last examination was made."

In 1905 (during May), three samples were sent for chemical analysis and for bacteriological examination. The Borough Analyst reports—"On the whole these samples are better than those of last year, showing chemically a higher degree of purity. As representing a water supply they are all of excellent quality, and suitable for all domestic purposes." The certificate from the Lister Institute of Preventive Medicine, on the bacteriological examination of the waters, concludes with the following remarks:—"The total number of organisms per cub. cent. is low and satisfactory, and the number of organisms of intestinal type which are present is not large, though sample No. 3 is suggestive of pollution as judged by this test. The proportion of the total number of organisms, however, which are capable of growth at body temperature is very high (nearly $\frac{1}{2}$ in the average), and this is extremely suggestive of undesirable contamination. The water cannot be said to be satisfactory as long as this proportion between organisms growing at 22° and at 37° remain so high."

Alderley Edge is supplied from the Stockport Water Works Company. This water was good in 1907, but in parts of the District complaints are occasionally received of discolouration. A few houses only depend on pump wells. At Alsager the

inadequacy of the water supply is recognised by the District Council, and a Committee has been appointed to improve the supply. A number of houses are without water-supply, and several are dependent on shallow wells imperfectly protected and liable to be contaminated. The Medical Officer of Health states that during 1907, efforts were made to augment the supply. A bore-hole, 365ft. deep, was made but abandoned, owing to the brine met with. A second well, 34ft. deep, has been sunk near the existing well and coupled to it, but how far this will be effective remains to be proved.

The supply for Altrincham and Ashton-upon-Mersey is derived from Manchester, and distributed by the North Cheshire Water Company. It has been tested from time to time and found satisfactory. In 1907 and in recent years the supply appears to have been sufficient at Altrincham, but it is sometimes a little scanty at Ashton-upon-Mersey. Public Baths were opened at Altrincham during 1901, and are likely to meet a long felt want. Higher and Lower Bebington have good water from the West Cheshire Waterworks. Of late, this water has become hard, and efforts are being made to have it softened. The Company are willing to soften the water if empowered to recover the expenses by an addition to the water-rate. Works for the water-supply of Bollington were practically complete on February 18th, 1899. The extension of the mains in the added portion of the District has been effected, and almost the whole of the houses have been connected to the mains. In the Report for 1901 it was stated that the yield from the bore-hole had so greatly diminished that this District Council had to limit the supply to two hours a day, reducing the consumption per head per day from 19 gallons to 6 gallons. The Local Government Board then insisted on an additional water-supply being obtained, and steps were taken to do this. The work of connecting the supplementary supply from Dane Bent has been rapidly pushed forward, so that this may be available if required. As delay was experienced in obtaining the Local Government Board's sanction to the proposed reservoir as planned, this portion of the work was not carried out. However, the laying of a new main direct to the bore-hole was accomplished in August, 1902. The supply is wholesome and free from impurities and fairly sufficient, but owing to the large increase of water required for additional water-closets, it becomes very important to prevent waste. Bowdon continues to have a sufficient supply of good water from Manchester.

The District of Bredbury and Romiley has a good supply of wholesome water, obtained through Stockport Corporation and Hyde Corporation from the Woodhead reservoir. Nearly the

whole of the District is now supplied with Manchester water. Mains are being extended into the portion of Brinnington recently added to Bredbury to supply farms and cottages. In Bromborough Urban District the Pool Works Village is supplied from deep wells belonging to Price's Patent Candle Co., and the remainder of the District has the good deep wells of the West Cheshire Waterworks. Buglawton has a good supply from the local Waterworks, which were completed in 1895. Cheadle and Gatley are supplied from the Stockport District Waterworks. Ordinarily the supply is sufficient for the needs of the District, but during any spell of dry weather, the supply usually has to be curtailed. In 1907, the supply was sufficient, but complaints were received of the hardness of the water, and at times it is so discoloured and turbid as to be hardly fit for domestic use. The Compstall water supply is obtained from springs on the upland, and stored in two reservoirs. The water is soft, clear, and of good quality. The supply is practically unlimited. The District of Ellesmere Port and Whitby is supplied from the West Cheshire Waterworks. The water supply in Hale is satisfactory. Handforth is supplied by the Stockport Corporation. The water is of good quality and sufficient. Hazel Grove and Bramhall have a good supply from the Lyme Park reservoirs of the Stockport Corporation. Some householders have, however, to depend on well water. One of these (Kinsey's Well) was analysed in 1905, and was declared unfit for domestic use owing to hardness. This well and Offerton Well are now closed, owing to the unfavourable reports received from the County Analyst.

The report from Mottram is that the supply, which is taken from the Manchester Corporation reservoirs, is pure and usually plentiful. Hoole is supplied by the Chester City Waterworks, except at Piper's Ash. Hoylake and West Kirby have an excellent supply from deep wells at West Kirby. The Company supplying water to Knutsford, it will be remembered, yielded to the public demand for a purer water, and began boring at Booth Mill, in the middle of 1896. Sandstone was touched at a depth of 776 feet, and it was hoped that a good supply would be obtained. Unfortunately, an accident to the bore hole happened on April 30th, 1898, and it took till November 17th, 1899, to rectify it. Boring was then resumed, and continued more or less slowly, in 1900 and 1901. The Report of the Medical Officer of Health for 1902 is as follows:—"At last boring at Booth Mill has been abandoned. A depth of nearly 2000 feet was reached without satisfactory result. The water-supply, therefore, remains as before, taken from a stream admitted on all hands to be polluted, but so far not showing any obvious results to the detriment of the public health." The Medical Officer of Health, in view of what

took place at Maidstone, is "bound to believe that circumstances might arise which would be very serious; but the majority of the inhabitants appear to take little note of the risk." The Report for 1903 states that the water-supply "remains as before." The Reports for 1904, 1905, 1906 and 1907 state that no further steps to obtain a good water-supply have been taken.

Lymm is supplied by a Company, and the water has been analysed from time to time by the Medical Officer of Health and by an independent Analyst. The results show that this supply is a pure potable water. Certain private supplies "are not above suspicion," and some of these are closed from time to time. Several cottages are dependent on surface water, where good town's water could be laid on. Marple has a good supply, which is laid on to all but a small percentage of the houses. It is obtained in bulk from Stockport Corporation Filters at High Lane, and is daily pumped into the service reservoir at Wybersley. It is of good quality. The amount consumed is about 9.74 gallons per head per day—a small supply. At Middlewich the Waterworks (completed in 1896) continued to yield a supply, but the quantity is insufficient, especially in dry weather. The Council decided to supplement it by getting a supply from the New Red Sandstone. Their Engineer ascertained where such a supply might be expected, and through the aid of the Rt. Hon. Sir John Brunner, M.P., permission was given by the Woods and Forests Department to bore on the Crown Estate at Delamere. The results proved satisfactory, and a scheme was submitted and approved by the Local Government Board to erect a pumping station, reservoir and caretaker's house on land acquired from the Crown, and to convey the water through an 8-inch pipe to Middlewich. The work in connection with this scheme was successfully concluded early in 1907, and will be of great service to the town. The whole cost of this work it is estimated will be about £14,800.

At Nantwich Urban District water is still supplied from the Baddiley Waterworks. The supply continues discoloured and the pressure is insufficient. The long continued dry weather in the Summer of 1904 severely taxed the resources of the Waterworks. Numerous complaints were received. The question of obtaining a supply from the Liverpool Corporation mains (jointly with Nantwich Rural District) was further considered in the early part of 1904, but as the Council failed to obtain this water at a lower price than that at which it had previously been offered (9d. per 1000 gallons), the scheme was abandoned as being too costly. Mr. Baldwin Latham was retained as Consulting Engineer, to advise as to another mode of supply. He submitted two schemes,

both of which had been considered, viz. :—(1) a scheme for the enlargement of the storage at Baddiley, and for increasing the main capacity from the waterworks to the town; and (2) an alternative scheme for obtaining water from the Checkley District. The latter was strongly recommended by Mr. Baldwin Latham. Negotiations for acquiring a site for the construction of new Waterworks have occupied much time during 1905 and 1906, but are not yet completed. The storage capacity at the Baddiley works proved very inadequate in 1906. During the dry season, at first the District was given an intermittent supply for some weeks. Later the water in the mere below the level to which the Council are entitled to draw water, had to be drawn upon by special arrangement. The water in the mere was then below the level of the pipe leading to the Waterworks, and continued so for some weeks. A temporary pumping plant was put down, and the water was raised sufficiently high to gravitate to the works. During 1907, owing to a rainy season, the supply was more abundant than usual.

The District of Neston and Parkgate has a supply of high organic purity, from its own Waterworks, the water being derived from deep wells.

At Northwich Urban District the whole of the domestic supply is from the District Council's mains, by constant service from the Cote Brook springs—a supply of great purity. However, the quantity is limited. The District Council in consequence sank another bore-hole at Cote Brook to a depth of 410 feet, which is yielding 38,600 gallons per day. This has decreased the flow from the other bore-hole, so that the actual increased yield is only 25,000 gallons per day. The construction of another reservoir is a step which ought to be seriously considered. But nothing further was done in 1907. The Wade Brook supply is only used for street watering and sewer flushing. The supply for Runcorn Urban District is obtained at present from a deep well situated on Runcorn Common. The well is about 300 feet deep, and (it is believed) about 70 feet below the bed of the River Mersey. Water is pumped from the well into a large receiver situated on Runcorn Hill, and is distributed by gravitation to the whole District. The water used to be supplied through a Limited Company, but the Urban Authority took over the work about 13 years ago. The supply is plentiful. Samples are submitted from time to time for chemical analysis or bacteriological examination. No indication of sewage filtration has ever been obtained. The water is, however, rather hard for a public supply. The supply underwent considerable change during the year 1906—it has been arranged to use the old supply with an equal quantity of Liverpool

water, which gets into the reservoir by gravitation. The mixed water is delivered throughout the District by the old mains. Sale has a good supply from the North Cheshire Waterworks. This water is from the Manchester Corporation Reservoirs at Woodhead. The town supply of Sandbach is water derived from an upland source and treated by Clarke's process. The water is very pure, and continues to be amply sufficient not only for Sandbach but also for the Townships supplied through Congleton Rural District Council. New tanks were added to the plant used for softening the water in 1898-99, to enable the Authority to deliver a perfectly clear water. With few exceptions all the houses in the District on the pipe line, where the private supplies have been condemned, have been connected with the District Council's mains. Owing to the large quantity of oxide of iron in the crude water a good deal of sediment deposits in the gravitation main, thus obstructing the flow of water and increasing the friction in working. A new 10in. gravitation main has been put in and new machinery obtained. Only one main is used at a time, so that the other may be cleaned out without interrupting in any way the supply of water. The Council will thus have a second main available in the event of a break down. The Sandbach water, as distributed, averages about 5.2 degrees of hardness. At Tarporley the town is well supplied with water from the Liverpool Waterworks. The water is soft, and care is taken not to use lead pipes in any part of the house service. There are upwards of 300 houses and premises now in connection with the mains. In parts of the District are ordinary wells; other parts are supplied from springs, the water from which is of excellent quality. Part of the Township of Rushton (comprising 5 farms and 5 cottages), lately in need of water, was in 1903 supplied by a main connected with the Liverpool Waterworks. Wallasey Urban District has a good supply. The average quantity used per head per day in 1907 was 33.54 gallons. As mentioned in the Annual Report for 1904, a supplementary supply has been obtained from the Liverpool Waterworks. Some time since, owing to the old Poulton Wells, Nos. 1 and 2, having become impregnated with too large a proportion of salt, it was felt that it was not safe to depend entirely on the Seaview Road Well. After long consideration, it was decided to apply to Liverpool to provide Vyrnwy water. This was done, and a pipe line was laid near Norton Tower, in the Delamere District, from the Liverpool main line. This supplementary line was commenced on October 10th, 1903. During 1907 the volume of water supplied was as follows:—

From Wells at Liscard ...	...	578,682,039	gallons.
From Vyrnwy ..	...	192,629,000	„
Total ...		771,311,039	„

Wilmslow Urban District has a good and sufficient supply from the Stockport Corporation Waterworks. This water (from the bore-hole in the new red sandstone) is pumped into softening plant, where it is treated with lime. As raised from the bore-hole the hardness is about 14 degrees of Clarke's scale, and after treatment it is from 6 to 7 degrees. The supply is good and ample. At Winsford the public water supply is derived from springs in the Townships of Little Budworth, and is generally satisfactory in quality and quantity. It is conducted through a 10-inch pipe to a large reservoir in Whitby's Lane, Over. The reservoir holds a million and a half gallons. At Yeardsley-cum-Whaley the new reservoir at Stoneheads supplies a part of the District. During 1899 the District Council entered into a provisional agreement with Colonel Cotton-Jodrell for the acquisition of his water-rights at Stoneheads and Diglee. The District Council also made application to the Local Government Board for sanction to borrow £7,000 to carry out an efficient scheme for furnishing the District with water. An Inquiry was held by an Inspector of the Board in September, 1900, and in the summer of 1901 the Board sanctioned the borrowing of the sum named. During 1902 this public water supply was completed, and a large number of houses have been supplied. However, there are still several houses without good water. The whole District should be supplied at an early date. During 1907 the supply was good, and the County Analyst's report thereon satisfactory. The flow of water into the reservoir has now been altered, and a constant current of the whole bulk of water is maintained.

Supplying Rural Districts with sufficient water of good quality is, of course, relatively much more difficult and costly than supplying Urban Districts, and for the reason already given is often impracticable. The Reports from the Rural Districts are as follows:—In the Bucklow District, the North Cheshire Water Company supply Timperley, Dunham Massey, and Northenden. In other parts of the District there is no good general supply. In some parts it is difficult to find good water. In Chester Rural District part is supplied by the Chester Waterworks, part from Wirral Waterworks, and part from Wrexham Waterworks; elsewhere some of the houses have good well water and some water which is unsuitable or deficient in quantity. Christleton, Newton, and Upton have supplies from Chester Waterworks. During 1889 the extension of the Chester water-mains to Great Boughton was accomplished by private enterprise. Great Saughall, Capenhurst, and part of Mollington are supplied from the Wirral Waterworks. Mollington was in 1903 given a supply from the Chester mains, the principal landowners contributing four-fifths of the initial expenditure. The Rural District is

traversed by a large conduit taking Vyrnwy water to Wallasey, and this may become a further available source of supply. A few houses are being supplied therefrom. In the Congleton Rural District most parts are reported to be well supplied with water ; but Rode Heath and Thurlwood are much in need of water. The District Council are endeavouring to obtain water for Holmes Chapel, and an arrangement may be come to with Middlewich whereby this District may be supplied from Sproston Water Tower, but the scheme progresses very slowly. There are also a few cottages at Tetton with only very inferior water. It was mentioned in the report for 1903 that water had been supplied to the Parish of Lawton by the North Stafford Company. A letter from Dr. Crutchley, of Alsagar, dated December 1st, 1904, was sent to the Rural District Council, making a complaint that Rode Heath and Thurlwood had not a reasonably satisfactory supply of water. It was pointed out that many of the Shallow wells now in use, though possibly not so bad as to permit of their being condemned, are so near cesspools that they may become specifically polluted at any time.

The Disley Rural District is almost wholly within the Stockport water supply area. The village of Disley is supplied, but during summer the supply has occasionally to be cut off. In 1907 the water supplied to Disley was sufficient. Pending the completion of the Kinder Waterworks, the Stockport Corporation have opened a main in connection with Disley reservoir, and an abundant and wholesome supply is now available. In 1902 the Stockport Corporation extended their water main from Springfield to Newtown, with the result that the supply to Newtown was improved.

In Macclesfield Rural District the proposal to purchase water under the provisions of Section 61 of the Public Health Act, 1875, from the Corporation of Macclesfield, and to distribute it in several Townships was the subject of an Official Inquiry by the Local Government Board in 1903, and on receipt of the Board's sanction the work was at once taken in hand. Water mains have been laid in the Townships of Upton, Fallibroome, Prestbury, Butley, and Tytherington. On the completion of the works, copies of the regulations, scale of charges, and forms of application for supply were sent to the owners of all the houses en route. Where there was a dilatoriness on the part of the owners in availing themselves of a supply, Statutory Notices were served. The water is now in use at every house on the line, except two, which have private supplies of a satisfactory character. At Upton 38 houses have been supplied, at Prestbury 41 houses, at Butley

50 houses, at Tytherington 23 houses, and at Taxal 87 houses. Of these houses 14 were newly supplied in 1907. As regards water for Rainow, the source of supply, which was the subject of negotiations two years ago, having been secured, proposals for the collection, storage and distribution of this water were formulated and approved in 1902, and submitted to the Local Government Board with an application for sanction to a loan of £1,000 wherewith to construct the works. An Official Inquiry was held by a Local Government Board Inspector in 1903, and the loan was sanctioned. Since then the Parish Council have petitioned the Rural District Council not to proceed in carrying out the scheme. A petition to the same effect, signed by a large majority of the ratepayers, including the occupiers of three-fourths of the houses to which the proposed supply would be conveyed, has been received by the Rural District Council. The Waterworks at Poynton, which are owned by Lord Vernon, were extended during 1903 by the laying of 1,800 yards of water mains, the construction of a pumping station, and a new small service reservoir for the higher parts of the Township. The pumping machinery is driven by a gas engine. The number of houses now supplied from these works is 524 in Poynton. In Chorley 39 houses, and in Great Warford 29 houses are supplied from the Stockport Corporation water main. At Eaton 29 houses are supplied from the waterworks of the adjoining Urban District of Buglawton. At Hurdsfield, 80 houses are supplied from the waterworks owned by Mr. Brocklehurst. At Rainow 53 houses are supplied from waterworks owned by Mr. Mellor. At Sutton 100 houses are supplied by waterworks owned by Mr. Whinston. Upwards of 50 houses are more or less dependent upon a dip-well, the in-flow to which, in dry seasons, diminishes to less than 100 gallons in 24 hours. It was proposed that water should be purchased under Section 61 of the Public Health Act, 1875, from Macclesfield Corporation, and, as it is not under sufficient pressure for distribution throughout the neighbourhood, to raise it by means of a hydraulic ram (driven by impure water) to a service reservoir high enough for such purpose. The proposal was submitted to a Council's Meeting and was there rejected, as the undertaking would not be at once self-supporting. To meet this objection as far as practicable appeals were made to owners of property which would benefit by the undertaking, to contribute to the cost, but no contribution was offered. The Surveyor has since been instructed to prepare plans and estimates for the needed work, in order that application may be made to the Local Government Board for sanction to borrow the money required. The scheme was considered by the District Council early in 1906, and in consequence of local opposition it was resolved to defer carrying it out

for the present. Unfortunately considerable opposition to the scheme still exists; an effort was made to take over Mr. Mellor's waterworks, and extend them, but so far without success. An application was made to the Local Government Board for sanction to borrow £1,700, wherewith to lay additional mains in the Townships of Titherington, Butley and Prestbury. The Inquiry was held in November, 1906, and the Board's sanction was received in due course. There seems reason to believe that in 1906 a fatal case of diphtheria at Gawsworth, and a fatal case of typhoid fever at Prestbury were caused by drinking polluted water.

In Malpas Rural District, the supply to the town of Malpas, and to the Township of Bickley is from the Liverpool mains, but it is not constant, and in outlying parts of the District the inhabitants are dependent on private wells and springs, several of which are liable to pollution. Attention has been directed to the water supply of Marbury, and a very good supply was, during 1902, brought into the centre of the village by the Lord of the Manor, who is the principal landowner. The water is conveyed into a tank, from which it is pumped, providing a free supply to the inhabitants. In 1903 water was brought for some distance for the supply of the school and adjacent houses.

There is some progress to report in Nantwich Rural District. During 1907, 1,972 yards of mains were laid. Mains laid by private owners prior to 1901 have not been included. There are now 160 miles of water-mains laid, and 4,255 houses supplied by mains in the District since 1879. The consumption of water throughout the whole District during 1907 was 71,084,000 gallons, and in addition to this 1,228,600 gallons were supplied to Bickley for the Malpas Rural District. The consumption per house per day, in 1907, was 56.6 gallons, and the consumption per head of the population per day was 10.7 gallons. The pressure on the mains throughout the District has been generally satisfactory, except in Shavington, and to some extent in Willaston, and an auxiliary main has been provided from Basford Hall Bridge to remedy these defects. There are projected waterworks in the townships of Brindley, Faddiley and Burland. During 1907 the plans and estimates were forwarded to the Local Government Board.

In the Northwich Rural District there are now works for water-supply in 23 Townships, and the supply to the Union Workhouse (in the Urban District) has also been maintained. Thus, about 17,000 of the population have an uninterrupted supply. Of the remaining 5,650 about half have a fairly good supply from pump wells, but the rest are much in need of good

water. The part of Winnington till lately supplied with shallow wells, has been supplied from the mains of the Northwich Urban District Council. At Bostock a supply has been established for the village at the cost of a property owner, the water being pumped by a wind-mill into an elevator service tank. An extension of water-supply has been carried out at Anderton, and further extensions are in progress at Cuddington, Oakmere and Delamere ; it is hoped that later this will be carried further. The water-supply at Barnton is exceptional in being drawn from springs very near the surface (much of it is surface water), and a rent has been paid to the farmer who occupies the gathering ground, to compensate him for not ploughing up or manuring the ground. He now seeks to be free from this obligation, and it behoves the Sanitary Authority to secure the grass surface from being broken up and manured. If this cannot be done another gathering ground should be obtained. Wimboldsley is still without good water. Occleston and Little Budworth also are much in need of good water, the Shelton Wells, on which they depend, yielding in many instances water of doubtful quality. Sixteen samples of water were submitted for analysis in 1907, eight were certified "bad" and dealt with accordingly.

In Runcorn Rural District, portions of Appleton, known as Stockton Heath and Wilderspool, have a good and plentiful supply of water from the Warrington Waterworks, and the greater portions of the villages of Walton Superior, and Moore are supplied from the same source. During 1900 the Warrington Corporation obtained the necessary powers to extend the Waterworks system further into the Rural District. This extension will prove of great benefit to Hatton, Stretton, and such contiguous areas as will be traversed by the extended water-mains. At Acton Grange the water-supply is not yet quite satisfactory, though many of the houses have recently been provided with Warrington water. The supply of a portion of Bartington is still defective, but an attempt to obtain water by gravitation has been begun, and seems likely to succeed. Engineering difficulties of an unexpected character have caused delays. As the water-mains have been extended to Daresbury, this village has a good supply—a large proportion of the houses have already been connected. At Dutton, water has been obtained from the Vyrnwy mains, owing to the site of the new Isolation Hospital being in this Township. Supplies from these mains have been given to 16 houses contiguous, six of which are farmhouses. There were many bad or indifferent water-supplies at Stretton, a fact which was illustrated by an outbreak of enteric fever in 1901. An almost complete survey was made of the various water-supplies in this Township, and a series of 26 waters were analysed in 1902.

Only four samples proved "first-class water." Negotiations for giving an improved supply to this Township are going on. As the suggested extension of the Warrington water-mains to Stretton implies their being laid through a portion of Appleton, houses along the pipe line will no doubt be provided with Warrington water. At Thelwall an extension of the Warrington water-mains has been made to the village, and many houses and a few farms have been supplied. The Thelwall supply will be available for a portion of Grappenhall. The remaining portion of Grappenhall is supplied by a private waterworks belonging to one of the principal landowners, and erected at his cost. In 1904 the Warrington mains were extended to Higher Stretton, where about a dozen houses and farms have been supplied. The other portion of Stretton may be supplied by a further extension. Aston Heath is still in need of good water, and should be supplied from the Liverpool mains. The improved supply at Clifton continues good. Halton, Weston Point, and the village of Weston are supplied from the Runcorn Urban Authority's Waterworks. The village of Norton is supplied with Liverpool water, but the mains require to be extended. The scheme for supplying Sutton from Liverpool mains, which was carried out in 1898, continues to prove satisfactory. Alvanley still requires an improved water-supply. It is possible that an extension of mains to Alvanley may be made, now that the Rural District Council have acquired the Helsby Waterworks. Supplying Frodsham has proved a success, and the undertaking is self-supporting. All the houses in the Township, with seven exceptions, are connected with the mains, and these seven have good water from wells. At Frodsham Lordship all the houses available have been connected with Frodsham mains. At Kingsley, the upper part of the Township is much in need of water. Nothing has been done to improve the supply for years. Thus, as the Medical Officer of Health points out, Runcorn is exceptionally well supplied for a Rural District, water being obtained from the four public supplies, that is to say, viz. :—the Vyrnwy Water-mains, the Warrington Corporation water, Frodsham Works, and Helsby Works. There appear to be only three Townships in urgent need of supplies, viz. :—Norley (as regards 85 per cent. of its average), will shortly be supplied with Vyrnwy water, from the Liverpool mains. The mains are now laid, and all accessible houses on the line of conduit are connected. Supplies to Bartington and Appleton are not likely to be long delayed.

In Tarvin District the supply is mainly from shallow wells or surface springs. However, the village of Aldford, Churton and Saughton, are supplied from the Wrexham Waterworks, the mains having been extended by the Duke of Westminster, who

also caused Waverton to be supplied with water from a well, the water being raised by a windmill. The village of Ashton has been supplied by the owners by means of a gravitation scheme. Steps are being taken to supply the Township of Newton-by-Tattenhall. At Harthill and Kelsall are gravitation supplies from wells, provided by owners of property for their tenants. The District Council have lately expended £4,500 in works of water supply for the Townships of Beeston, Tilstone Fearnall, and Tiverton. There has been a greater demand for this water than was anticipated, and an increased supply has just been provided. The village of Tarvin is dependent on ordinary wells for water, one of which was constructed by the Rural Sanitary Authority. The water from some of the wells is not good, and all the wells are in some degree liable to pollution. Several efforts have been made in past years to introduce a pure supply from without, but a large proportion of the ratepayers oppose it on account of expense. In Tintwistle the water is good and plentiful. Wirral Rural District is generally supplied from the West Cheshire Waterworks, except Bidston-cum-Ford and Noctorum, which are supplied from the Birkenhead Waterworks; and Moreton and Saughall Massie from the West Kirby Waterworks. The West Cheshire water has of late become unduly hard, and much inconvenience has been caused thereby. Efforts are being made to get it softened. Wirral Rural District is traversed, but not supplied, by a large pipe conveying water from Vyrnwy to Wallasey.

There is a Report presented quarterly by the County Analyst giving particulars of the results of analyses of samples of water submitted to him from the Urban and Rural Districts, and the County Council take steps to ascertain what action is taken by the several Authorities, for preventing water, certified as bad, or of doubtful purity, from being used for domestic purposes.

The Purification of Water by Copper Sulphate.--

In the Report from the Borough of Macclesfield for 1904 is a reference to a new method of purifying water by means of copper sulphate, familiarly known as blue vitriol. It has been known for some time that copper destroys bacteria, but the metal has not been much used for this purpose, as it was generally believed that the quantity of copper salt required to purify water would poison the water. Dr. George T. Moore has recently announced that he has discovered how to get the good effect of copper without in any way endangering the wholesomeness of the water.* He uses the

* Bulletin No. 64, Bureau of Plant Industry, Department of Agriculture, United States of America.

copper salt so diluted that it cannot hurt the water drinker, and yet it is active enough to destroy in four or five hours the virulent bacilli which spreads cholera, typhoid fever, etc. It is alleged that in water which has had sufficient copper sulphate added to it, and has been allowed to stand, no trace of copper can be detected. The copper is quickly precipitated as a hydrate and carbonate, and perhaps, also, in an organic combination, so that after sedimentation the whole of the copper is removed from the water.

There can be no question that the whole matter requires re-investigation. Experiments as to the effect of small quantities of copper sulphate in purifying water are now being made at Macclesfield Borough Waterworks.

The District Councils (Water Supply Facilities) Act, 1897.—This Act will probably be especially helpful to those who are endeavouring to obtain a proper water supply for houses in sparsely populated localities. Its object is to give facilities to District Councils in Rural Districts, to make arrangements with landowners to charge their estates, for the purpose of assisting in the provision of a supply of pure water. In the memorandum which accompanied the Bill, it was pointed out that, at present, limited owners—that is, persons entitled to any lands subject to any mortgage or charge thereon—and their powers, come under the Limited Owners' Reservoirs and Water Supply Further Facilities Act, 1877, by which they have power to carry out the supply of water by going to Land Improvement Companies, spending their own money, or borrowing it, with the approval of the Board of Agriculture. The Act of 1897 provides that all owners, limited or otherwise, may make arrangements with Rural Councils, with the concurrence of the Board of Agriculture, and gives power to all owners to charge their estates, or provide the money for an extension of water-mains. The Act is permissive, and does not extend to Scotland or Ireland. It is to be read with the Improvement of Land Act, 1864.

Dairies, Cow-sheds, and Milk Shops.—Under the Dairies, Cow-sheds, and Milk Shops Orders, it is unlawful for any one to carry on the trade of cow-keeper, dairyman, or purveyor of milk, unless registered by the Local Authority. No one is allowed to begin to occupy a building as a dairy or cow-shed unless he makes provision to the reasonable satisfaction of the Authority for its lighting and ventilation, including air-space, cleansing, drainage, and water supply, and he must give the Authority a month's notice, in writing, of his intention to occupy. Dairies and cow-sheds, new or old, can only be occupied as long as

the lighting, ventilation, air-space, cleansing, drainage, and water supply, are such as are necessary for the health and good condition of the cattle, the cleanliness of milk vessels, and the protection of milk against infection or contamination. It is unlawful to allow any person suffering from a dangerous infectious disorder, or having been recently in contact with such person, to milk cows, or in any way help in the milk business, and unlawful for a cow-keeper or dairyman to offend in a similar way. A milk store must not be used as a sleeping room, or for any purpose incompatible with the cleanliness of the milk. No w.c.'s, etc., are allowed to communicate with a dairy or milk store, and pigs are not allowed to be kept in a cow-shed. The milk of diseased cows must not be mixed with other milk, or be sold or used for human food, and must not be used for the food of swine or other animals until boiled.

Local Authorities may make regulations for the inspection of cattle in dairies, for prescribing and regulating the lighting, ventilation, cleansing, draining, and water supply of the dairies and cowsheds, for securing the cleanliness of milk stores or shops, and milk vessels, and for prescribing precautions to be taken against infection and contamination.

Doubtless the terms of these Orders are very well known to the Medical Officers of Health and Inspectors in the County, and they endeavour in their various districts to see that the law is carried out. Still, in a few districts, no regulations appear to have been made, and without precise regulations it is impossible to insure that premises, cattle, and milk are kept clean and in order.

In the Annual Report for 1900, full information was given as to the action taken by the Public Health Committee of the County Council to bring the provisions of the Dairies, Cowsheds, and Milkshops Orders under the attention of Councils of Boroughs and Districts in the Administrative County, to induce those who had not made Regulations to make them, and to induce those whose Regulations were out-of-date to make new and satisfactory Regulations. It was there stated that nine Authorities had not made Regulations, and in the Annual Report for 1901 it was stated that there were still five Authorities which had not made Regulations. These Authorities were the Town Council of Stalybridge, and the Urban District Councils of Hazel Grove and Bramhall, Hollingworth, Mottram, and Yeardsley-cum-Whaley. None of these made Regulations during 1902, 1903, 1904, 1905, 1906, or 1907.

No doubt considerable interest has been aroused in the subject, and in 44 out of the 54 Annual Reports sent in, there is some reference to dairies and their regulation. Many Reports state the number of persons registered, the number of persons added to, or removed from the Register, the number of visits to dairies, etc., made by the Inspector, with remarks on the defects observed, and notices served to remedy the same, etc. In three Reports are notes of special interest. In the Report from Crewe it is stated that whilst nearly all the dairymen and milksellers comply with the letter of the law, in few instances is that scrupulous attention given to cleanliness which its importance demands. The following additional regulation, prescribing precautions to be taken by purveyors of milk in the Borough, against infection or contamination came into force on August 1st, 1906:—"Every
 "purveyor of milk or person selling milk by retail shall cause
 "every vessel containing milk for sale to be kept properly
 "covered, or to be otherwise sufficiently protected from con-
 "tamination by dust or flies." Copies of the regulation were issued to every milkseller whose name was on the register, and towards the end of the year an inspection of all milk-shops was made to see how the regulation had been carried out. It was found that at 10 shops there were no covers. At the majority the milk vessels had covers of muslin, metal or wood; at 9 shops the covers were dinner plates, tea trays, &c., and at 7 shops the covers used were only paper. During 1907 there were 125 milk-shops and 51 cowsheds on the Register. The Report from Wallasey shows that there is a District in the County which in its Regulations requires 800 cubic feet of air-space for each cow, and insist upon having it. In 2 instances slight overcrowding was reported in 1907. On intimating such to the cow-keepers the cattle in excess were immediately transferred to other cow-houses, and no legal proceedings were necessary in any case. The Report from Bucklow shows that this is a Rural District in which a really earnest attempt has been made to grapple with the difficulty of keeping rural cow-sheds and dairy premises in good order. The progress made has so far been slow, but much in the right direction seems to have been accomplished.

The Dairies, Cowsheds and Milkshops Order of 1899.—This Order, which is dated February 7th, 1899, was issued to amend Article 15 of the Dairies, Cowsheds, and Milkshops Order of 1885, altering the said article, so that for the purposes of the provisions of paragraphs (a) and (b) thereof, the expressions in the Article which refer to disease

shall include in the case of a cow, such disease of the udder as shall be certified by a veterinary surgeon to be tubercular.

The Local Government Board in a circular-letter addressed to Councils of Boroughs and Urban Districts, and dated March 11th, 1899, make the following remarks explanatory of the Dairies, Cowsheds, and Milkshops Order, of 1899:—

Article 15 of the Dairies, Cowsheds, and Milkshops Order of 1885 provides that at any time if disease exists among the cattle in a dairy or cowshed, or other building or place, the milk of a diseased cow therein (a) shall not be mixed with other milk; and (b) shall not be sold or used for human food.

The term “disease” in the Order is limited to those diseases which were included under the Contagious Diseases (Animals) Act, 1878, of which Tuberculosis is not one, and the Royal Commission on Tuberculosis state in paragraph 39 of their Report that “the evidence abundantly shows how “this fact has precluded local authorities from any attempt “to deal with Tuberculosis in milch cows, although they may “have shown themselves alive to the danger, and anxious to “provide a remedy,” and they express the opinion that “it “is desirable that the Order should be made applicable to “all diseases of the udder in cows of which milk is offered “for sale.”

The Board have issued an Order to amend Article 15 of the Order of 1885 by providing that, for the purposes of paragraphs (a) and (b) of the Article, reference to disease shall include, in the case of a cow, such disease of the udder as shall be certified by a veterinary surgeon to be tubercular. The Board think that it will be competent for the Council to employ and pay a veterinary surgeon with a view of obtaining a certificate under the Article, as amended, or to appoint him as an officer for this purpose, if they think fit to do so.

Model Regulations: Dairies, Cowsheds and Milkshops.—With the circular letter just referred to, the Local Government Board sent a draft form of Model Regulations for the use of Local Authorities. The Board state that representations had been made to them, that it would be desirable that they should issue Model Regulations for the guidance of Councils in making Regulations under Article 13 of the Dairies, Cowsheds, and Milkshops Order of 1885, but that they had deferred doing so, pending the Report of

the Royal Commission on Tuberculosis. That report having been made, the Board caused some Model Regulations to be prepared and enclosed copies. The following is an extract from the circular letter referring to the Regulations:—

It will be observed that No. 8 of the Regulations, which deals with the question of air-space in cowsheds, does not apply to cowsheds the cows from which are habitually grazed on grass land, during the greater part of the year, and when not so grazed, are habitually turned out during a portion of each day, and it is obvious that a regulation on this subject which might be adapted to cowsheds in towns, where the cows are kept and fed within the building, might be unsuitable for cowsheds in the country, where the cows are regularly grazed on grass land during the greater part of the year, and are during the rest of the year usually turned out for a portion of each day.

The Royal Commission, in their recommendations, drew a distinction between the rules which should be observed on this subject as regards cowsheds situate in populous and those situate in non-populous places, but no indication was given as to the means by which this distinction was to be made. It is clear that it could not be accomplished by any test of population, or by adopting the geographical limits of Urban and Rural Districts, without creating anomalies which would be indefensible.

Neither is it easy to say how the distinction can be carried out, except upon the plan suggested by the Board, which seeks to give effect to the chief difference between cowsheds in towns and cowsheds in the country, or in other words between the case of cows which are kept entirely as a rule indoors, and that of cows which are usually turned out to graze.

It will be noticed that No. 4 of the Model Regulations, which provides that every cow-keeper must cause every cowshed in his occupation to be sufficiently ventilated, and for this purpose to be provided with a sufficient number of openings into the external air, to keep the air in the cowshed in a wholesome condition, applies in both classes of cases.

If the Council have not already made regulations under the Order of 1885, the Board think that they should do so, and that any such regulations would with advantage be based on the Model Clauses. If the Council have already made regulations under the Order, the Model Clauses may

usefully be considered in connection with any fresh regulations, or amendment of the existing code, which the Council may propose to make.

The Board's confirmation of any regulations which may be made by the Council will not be required, but, if at any time the Board are satisfied on inquiry with respect to any regulation, that the same is of too restrictive a character, or otherwise objectionable, they may direct its revocation; and the Board suggest, that the draft of any regulations which the Council may propose to make should be sent to them for consideration, before the regulations are formally adopted.

Unsound Meat, &c.—The statutory Powers under which unwholesome food is now ordinarily seized and dealt with in the provinces, are contained in Sections 116 to 119 of the Public Health Act, 1875. Any Medical Officer of Health or Inspector may at all reasonable times inspect and examine any animal, carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, or milk, exposed for sale, or if deposited in any place for the purpose of sale, or preparation for sale and intended for the food of man, and if any such animal, carcase, &c., appears to the Medical Officer or Inspector to be diseased or unsound or unwholesome, or unfit for the food of man, he may seize and carry it away in order that it may be dealt with by a Justice. If it appears to the Justice that the animal, carcase, &c., so seized is diseased or unsound, or unwholesome, or unfit for the food of man, he shall condemn the same and order it to be destroyed, etc., and the owner is liable to fine or imprisonment. Any person who obstructs or impedes an Officer when carrying into execution these provisions is liable to a fine. A search warrant may be obtained to search for unsound food kept or concealed in any building. The inability to examine and seize any food when sold, and the inability of the Justices to condemn certain kinds of unsound food, and food sold and food not seized, have been remedied by Section 28 of the Public Health Acts Amendment Act, 1890. Any Urban or Rural Authority, by adopting this section, may effect the required change as far as relates to the Authority's District.

The powers of Medical Officers of Health and Inspectors to seize and obtain an order to destroy any kind of unsound food are therefore ample; yet there appears to be very little food condemned in the County. Either there is practically no trade in unsound meat, etc., in this large County, or the trade is not much interfered with. The subject is only

alluded to in thirteen Reports. In the Borough of Crewe the butchers call the attention of the Medical Officer to any carcase in which abnormalities are found after slaughter, and if, on examination, the carcase appears unfit for human food, the owner is allowed to give up the carcase voluntarily for destruction. This local organization goes by the name of the Butchers' Vigilance Association, and is reported to be of great service to the Authority. Owing to the supervision of the Association over the trade, "the quality of meat exposed for sale is of a high standard."

During 1907 the inspection of 13 carcasses was invited at the Crewe slaughter-houses. In six instances the whole carcase was condemned as unfit for human food, and voluntarily surrendered. The other carcasses were passed subject to the destruction of the affected portions. The disease in each case was tuberculosis. In the Report for Hyde it is stated that no unsound meat was discovered exposed for sale in 1907, but 5 carcasses were voluntarily handed over to be destroyed.

In the Borough of Macclesfield no carcasses were seized, but many samples of food were taken, and in three instances the vendors were proceeded against.

The Inspector examined the carcasses of two beasts which had been badly bruised. In one case the bruised part was cut away, and the sound part was passed, the other carcase was destroyed. Two sheep and 1 pig were found dead, and destroyed. A butcher called the Inspector's attention to the carcase of a cow which was "graped." The affected part was cut away, and the carcase passed.

The Report of the Medical Officer of Health for Stalybridge indicates that the inspection of meat, &c., has full attention. In the course of 1907 the Inspector examined 41 swine slaughtered on unlicensed premises; all were in good condition and fit for human food.

The Report for Bollington states that no meat unfit for food was found during 1907, though the Inspector visits each of the 3 slaughter-houses when killing is going on. In the Report for Cheadle and Gatley it is said that no unwholesome food, so far as is known, was exposed for sale in the District during 1907. The Medical Officer of Health states that plans for a new slaughter-house have been passed, and all slaughter-houses are to be licensed in future.

The Medical Officer of Health for Hoylake and West Kirby notes that the slaughter-houses are regularly inspected, especially

on the days when slaughtering and dressing carcasses is going on. In Northwich Urban District two slaughter-houses were reported for not carrying out the regulations as to lime-washing ; in one the drains had to be relaid, and one house was re-built. The Medical Officer condemned the carcass of a heifer in a slaughter-house belonging to the Winnington Co-operative Society, which was badly tainted with tuberculosis. In Bucklow Rural District three carcasses were seized, and in one case the butcher was sentenced to three months' imprisonment for having diseased meat, which was intended for human food, on his premises.

In Nantwich Rural District carcasses are examined at the request of butchers, and during 1907 fourteen carcasses were so examined, five slaughter-houses were licensed, and three knackers' premises. In Northwich Rural District there are twenty-four slaughter-houses now on the Register, but most of the slaughtering is done in unsuitable and out-of-the-way places, where it cannot possibly be kept under proper control. In Runcorn Rural District eleven carcasses were examined, and all passed. At Wallasey the amount of diseased meat seized was as follows :— 2,798 lbs. of beef, 1,746 lbs. of mutton, 18,300 lbs. of veal, 33,290 lbs. of offal removed from the Foreign Animals Wharf, Wallasey, and Alfred Dock, and destroyed, making in all 56,134 lbs. In this District visits of inspection (to the number of 935) were paid to private slaughter-houses, and 5,838 lbs. of beef, mutton, pork, veal, lamb, and offal were removed therefrom, and destroyed. Butchers' shops, fishmongers' and poultry shops were visited weekly, but from these only 400 lbs. of meat, etc., were destroyed.

The practice of "blowing" in dressing Meat.— In one Report (that from Stalybridge) is a reference to "blowing." Early in the summer attention was drawn to the practise, and the Medical Officer of Health found that it was largely employed. A circular was, therefore, sent to all the butchers in the Borough, informing them that the Sanitary Authority were desirous that in the interests of the public the practise should be discontinued, and soliciting their compliance in this matter. The practise has since almost ceased in Stalybridge.

On April 27th, 1906, the County Medical Officer of Health presented a Report to the Public Health Committee, "on the practise of 'blowing' alleged to be made use of by slaughter-men in dressing carcasses of meat for human food, with suggestions as to how this practise may be prevented."

The Committee thereupon

RESOLVED—That a copy of the foregoing Report be sent to each of the Municipal Boroughs and Urban and Rural Sanitary Authorities in the County, and also the Local

Government Board, with a recommendation that the practice of the "blowing of meat" should be made illegal and subject to penalties.

Instruction to Meat Inspectors with regard to Tuberculosis in Animals intended for Food.—In the circular letter of the Local Government Board (dated March 11th, 1899), already referred to, are the following instructions to Meat Inspectors :—

"The Royal Commission recommended that the Board
"should be empowered to issue instructions from time to time for
"the guidance of meat inspectors, prescribing the degree of tuber-
"cular disease which, in the opinion of the Board, should cause a
"carcase, or part thereof, to be seized.

"Pending the issue of such instructions we are of opinion
"that the following principles should be observed in the inspection
"of tuberculous carcases of cattle :—

"(a) When there is a miliary
"tuberculosis of both
"lungs.....

"(b) When tuberculous lesions
"are present on the pleura
"and peritoneum....

"(c) When tuberculous lesions
"are present in the mu-
"cular system or in the
"lymphatic glands embed-
"ded in or between the
"muscles

"(d) When tuberculous lesions
"exist in any part of the
"emaciated carcase.....

The entire carcase
and all the organs may
be seized.

"(a) When the lesions are con-
"fined to the lungs and
"the thoracic lymphatic
"glands

"(b) When the lesions are con-
"fined to the liver.....

"(c) When the lesions are con-
"fined to the pharyngeal
"lymphatic glands.....

"(d) When the lesions are con-
"fined to any combination
"of the foregoing, but are
"collectively small in ex-
"tent.....

The carcase, if
otherwise healthy, shall
not be condemned, but
every part of it contain-
ing tuberculous lesions
shall be seized.

“In view of the greater tendency to generalization of tuberculosis in the pig, we consider that the presence of tubercular deposit in any degree should involve seizure of the whole carcass and the organs.

“In respect of foreign dead meat, seizure shall ensue in every case where the pleura have been ‘stripped.’”

The Board do not consider it necessary at present that anything should be added to these instructions, or that they should be modified, and the Board think that the Council should direct those of their officers who are employed as Meat Inspectors to act in accordance with the principles thus laid down.

The Board may at the same time draw attention to Article 19 (7) of their General Order of the 23rd March, 1891, with respect to the duties of an Inspector of Nuisances in relation to the inspection and seizure of meat. They may point out that where an Inspector of Nuisances is appointed under that Order, or under any Order superseded by that Order, he is required by the Article, in any case of doubt arising under it, to report the matter to the Medical Officer of Health, with a view of obtaining his advice thereon. The Board think it desirable that any such Inspector of Nuisances should be reminded of this provision.

Memorandum on Tuberculous Meat.—Owing to the not infrequent occurrence of tuberculosis in cattle intended for human food, it was thought that it might be of assistance to farmers and butchers to have by them a brief pamphlet setting forth the symptoms of the disease in the living animal, and the signs of the disease in the carcass and organs after slaughter.

Accordingly, an official Memorandum on Tuberculous Meat was prepared in July, 1903, by the County Medical Officer of Health and the Chief Veterinary Inspector.

Copies of this Memorandum were furnished to the Councils of Boroughs and Urban and Rural Districts within the County, and the Chief Constable was asked to permit the police to hand copies of the same to farmers and butchers in the Parishes under their supervision.

Slaughter-Houses.—Urban Authorities may provide Public Abattoirs, for the regulation of which they may make bye-laws. It is a pity this power is so seldom used, as private slaughter-houses, whether licensed or not, are very liable to

cause a nuisance. For the purpose of enabling any Urban Authority to regulate slaughter-houses within their District, the provisions of the Town's Improvement Clauses Act, 1847, with respect to slaughter-houses, are incorporated with the Public Health Act, 1875. The sections of the Town's Improvement Clauses Act referred to (Secs. 125 to 131) provide (a) that the Urban Authority may license such slaughter-houses and knacker's yards as they think proper within their District; (b) that no place may be used or occupied as a slaughter-house which was not in such use or occupation prior to the passing of the Act of 1875, or the formation of the District into an Urban District, without first obtaining such license; (c) that slaughter-houses used prior to 1875 are required to be registered but not licensed; and (d) that the Urban Council may make bye-laws for the regulation of slaughter-houses.

The Reports from 39 Districts record that local slaughter-houses have been inspected, and that they are, with few exceptions, generally well kept. In the Borough of Crewe there are 15 registered slaughter-houses, which are used by 35 butchers. The premises are kept in fairly satisfactory condition. In Dukinfield are 10 slaughter-houses in actual use, duly inspected. They are kept clean and in sanitary condition, but some of them are deficient in air space and situated in objectionable places. The Medical Officer of Health for Hyde is in favour of a public abattoir being provided, where systematic inspection of meat could be carried out. There are 29 registered slaughter-houses in this Borough, which are kept properly—but the efficient inspection of meat in these is difficult. Additional powers have been obtained in regard to slaughter-houses under the Hyde Corporation Act, 1903. In the Borough of Macclesfield are 22 registered slaughter-houses, too large a number for proper oversight to be exercised. At several of these the floors, drainage, etc., are not satisfactory. The Medical Officer of Health thinks a Municipal Abattoir would be of great benefit to the town. At Stalybridge there are 21 slaughter-houses; 10 are licensed, the license being renewed annually, the remaining 11 are registered only. The size and position of several of these premises are far from satisfactory. The bye-laws and regulations have been adhered to. At Altrincham the new abattoir and lairages were completed in 1904, and several improvements have been made at the lairages during 1907, so that the District Council now have the regulation of the meat supply directly within their own control. During 1906 the old abattoir, which much needed repair, was put in good order. At Higher Bebington a slaughter-house was built in 1903, so that now there are two in this District. At Lower Bebington 3

slaughter-houses have been regularly visited and occasionally the occupiers have needed admonition. The licenses are granted annually. The 3 licensed slaughter-houses are visited and kept clean, but only one has an impervious floor and glazed brick walls. Owners of two of these premises were required to amend defective pavings in 1907. At Bollington are 3 slaughter-houses, all of which were duly inspected. They are clean and in good order. One of these which used to drain into the brook has been properly drained. At Cheadle and Gatley there are 4 slaughter-houses all still unlicensed. They are reported to be well kept. The meat was also examined, and found sound. At Hale and Hoole there appear to be no slaughter-houses.

At Wallasey all slaughter-houses in connection with butchers' shops are regularly visited, in addition to the regular inspection of the abattoir at the Foreign Animals Wharf. The Wilmslow slaughter-houses have been inspected and found to be in fairly satisfactory condition.

In nine out of the 13 Rural Districts, it is stated that the slaughter-houses are inspected, and in four of these nine Districts they are held to be satisfactory. At Nantwich Rural District urban powers have now been obtained for the whole District. New bye-laws have been prepared by the Council, and these were approved by the Local Government Board in 1904. The good effect is already apparent. The Bucklow Rural District Council were not permitted by the Local Government Board to extend the bye-laws relating to slaughter-houses in the whole District. The three slaughter-houses at Malpas are neither licensed nor registered.

A large proportion of the premises in both Urban and Rural Districts might be much improved.

Offensive Trades.—A person establishing an offensive trade in an Urban Authority's District, without the Authority's consent in writing, is liable under the Public Health Act, 1875, to a penalty, and a further penalty for each day on which he carries on the trade. The trades mentioned in the Act are those of "blood-boiler, bone-boiler, fell monger, soap-boiler, tallow-melter, tripe-boiler," or any other noxious or offensive trade or manufacture. When any of the preceding trades or any slaughter-house, or any place used for a trade process causing effluvia, is certified to an Urban Authority by the Medical Officer of Health, or any two medical practitioners, or any ten inhabitants, to be a nuisance, or injurious to the health of any of the inhabitants of the District, complaints must be made before a Justice, and if it

appears to the Court that the nuisance exists, and that the defendant had not used the best practical means for abating such nuisance, he shall be liable to a penalty, and on repeated conviction to a higher penalty. The model bye-laws of the Local Government Board include among offensive trades those of blood-dryer, leather-dresser, tanner, fat melter, glue maker, size maker, and gut scraper.

There is very little reference to offensive trades in the Reports. In six Reports it is expressly stated that "there are no offensive trades" in the District, and in Crewe there are only two small establishments where an offensive trade is carried on. The business (that of gut-scraping) is conducted without any cause of complaint. At Dukinfield are two premises on the outskirts of the Borough, where offensive trades are carried on. At Macclesfield the only offensive trades appear to be associated with the preparation of tripe, and the premises are well inspected. At Hyde are 4 establishments where tripe-boiling is carried on and one establishment where soap-boiling is carried on. At Mottram there is a knacker's yard, which is well inspected. During 1907 complaints of an effluvium nuisance were received, and on the advice of the Council the premises were removed further from the village. At Wallasey the premises used for knackerings and other offensive trades in the neighbourhood of Havelock Street, Seacombe, have been kept under supervision. A large portion of the floor was re-laid in 1907.

Food Adulteration.—Mention is made in six Reports of action taken under the Sale of Food and Drugs Acts, etc., by means of which adulteration is detected and punished.

In the Borough of Crewe 103 samples of food were submitted for analysis ; none were adulterated. In Macclesfield, as before mentioned, 3 persons were prosecuted for selling adulterated food. At Cheadle 6 samples of milk were analysed, and found pure ; in 1 case the richness of the milk was commented on. At Wallasey, out of 117 samples of food seized, none were found to be adulterated. Five samples of milk were found barely up to the standard of quality. The matter was inquired into, and the sellers warned ; 3 of the samples came from the same source.

The Aliens Act, 1905.—This appears to be the only Act of Parliament of interest to Medical Officers of Health, passed in 1905. Its object is to amend the law with regard to aliens. It is based mainly on the recommendations of the Royal Commission of 1902 on Alien Immigration, but some of the recommendations of that Commission, such as the one relating to

overcrowding of certain areas by aliens, have not been dealt with in the new Act. The Bill of 1905, as introduced, differed considerably from the Aliens Bill which was before Parliament in 1904, some of the clauses and provisions which appeared in that Bill being omitted from the Bill of last Session. In the form in which the measure has received the Royal Assent the Act consists of ten sections, and broadly, provides for the regulation of alien immigration into, and for the expulsion of undesirable aliens from, the United Kingdom.

Section 1 provides that an immigrant shall not be landed in the United Kingdom from an immigrant ship except at a port at which there is an immigration officer appointed under this Act, and shall not be landed at any such port without the leave of that officer given after an inspection of the immigrants made by him on the ship, or elsewhere. If the immigrants are conditionally disembarked for the purpose, in company with a Medical Inspector, such inspection is to be made as soon as practicable, and the immigration officer shall withhold leave in the case of any immigrant who appears to him to be an undesirable immigrant within the meaning of this section.

Where leave to land is so withheld in the case of any immigrant, the master, owner, or agent of the ship, or the immigrant may appeal to the immigration board of the port, and that board shall if they are satisfied that leave to land should not be withheld under this Act, give leave to land, and leave so given shall operate as the leave of the immigration officer. For the purposes of this section an immigrant shall be considered an undesirable immigrant.

- (a) if he cannot show that he has in his possession or is in a position to obtain the means of decently supporting himself and his dependents (if any) ; or
- (b) if he is a lunatic or an idiot, or owing to any disease or infirmity appears likely to become a charge upon the rates, or otherwise a detriment to the public ; or
- (c) if he has been sentenced in a foreign country, with which there is an extradition treaty, for a crime, not being an offence of a political character, which is, as respects that country, an extradition crime within the meaning of the Extradition Act, 1870 ; or
- (d) if an expulsion order under this Act has been made in his case,

but in the case of an immigrant who proves that he is seeking an admission to this country solely to avoid prosecution or

punishment, solely on religious or political grounds, or for an offence of a political character, or persecution, involving imprisonment, or danger to life or limb, on account of religious belief, leave to land shall not be refused on the ground merely of want of means, or the probability of his becoming a charge on the rates, nor shall leave to land be withheld in the case of an immigrant who shows to the satisfaction of the immigration officer or board concerned with the case that, having taken his ticket in the United Kingdom and embarked direct therefrom for some other country, immediately after a period of residence in the United Kingdom of not less than six months, he has been refused admission in that country and returned direct therefrom to a port in the United Kingdom, and leave to land shall not be refused merely on the ground of want of means to any immigrant who satisfies the immigration officer or board concerned with the case that he was born in the United Kingdom, his father being a British subject.

The Secretary of State may, subject to such conditions as he thinks fit to impose, by order exempt any immigrant ships from the provisions of this section if he is satisfied that a proper system is being maintained for preventing the embarkation of undesirable immigrants on those ships, or if security is given to his satisfaction that undesirable immigrants will not be landed in the United Kingdom from those ships except for the purpose of transit. Any such order of exemption may be withdrawn at any time at the discretion of the Secretary of State.

Section 2 provides for the appointment of immigration boards for ports, such boards to consist of three persons summoned in accordance with rules made by the Secretary of State out of a list approved by him for the port, comprising fit persons having magisterial, business, or administrative experience. The Secretary of State is empowered to make rules generally with respect to immigration boards and their officers and the procedure under the Act.

Under Section 3 the Secretary of State may, if he thinks fit, make an expulsion order, requiring criminal or undesirable aliens in certain specified circumstances to leave the United Kingdom within a specified time, and thereafter to remain out of the United Kingdom.

Section 4 provides that when an expulsion order is made in the case of any alien, the Secretary of State may, if he thinks fit, pay the whole or any part of the expenses of or incidental to the departure from the United Kingdom and maintenance until departure of the alien and his dependents. The section also

provides for the masters of immigrant ships being liable in certain circumstances to refund to the Secretary of State his expenses in connection with expulsion cases, and to afford the expelled aliens free passage to the original port of embarkation. This may have the effect of leading masters of immigrant ships to exercise greater discrimination than they have done hitherto in many cases as regards the aliens brought by them to British ports.

Section 5 requires certain returns and particulars as to aliens to be furnished to the Secretary of State under penalty.

Section 6 provides for the appointment by the Secretary of State at such ports as he thinks fit of immigration officers and medical inspectors and officers, and for the remuneration of such officers.

Section 7 contains supplemental provisions as to the penalties for infringement of the Act, and as to procedure under the Act; and Section 8 contains definitions of "immigrant," "immigrant ship," "passenger," "steerage passenger," etc.

By Section 9 the Act is made applicable to Scotland and Ireland; and Section 10 provides that the Act shall come into operation on 1st of January, 1906, and also repeals the Registration of Aliens Act, 1836—an Act which has practically become a dead letter.

It will be seen that this new Act is to be administered by the Home Office, but the Local Government Board from the public health point of view, is also concerned. As regards the protection of the country from the importation of infectious diseases by alien immigrants, the Port Sanitary Authorities and their officers already exercise strict supervision under the Local Government Board's Regulations as to cholera, plague, and yellow fever, and this supervision will not be interfered with by the new Act. No doubt the Port Medical Officers of Health will, as a rule, be selected as the medical inspectors to be appointed for the purposes of this Act, and in this way co-operation and efficient enforcement of the new Act will be facilitated. In October, 1905, the Home Secretary appointed a Committee to consider and report as to the rules and regulations which should be made to give effect to the Act, and to recommend the arrangements necessary for bringing the Act into operation at the various Ports in the United Kingdom.

Recreation Grounds.—There is very little to be reported under this heading. The 10 acres of land purchased for a public park by the Dukinfield Urban District Council, in 1897, has been properly laid out, and was formally opened in 1902.

At Crewe much more has been done in providing recreation grounds. Crewe has the Queen's Park, containing over 35 acres situated in the South Ward, and the 3 playgrounds, viz.: South Ward playground, area 11,501 square yards; West Ward playground, area 8,356 square yards; North Ward playground, area 16,429 square yards. In the opinion of the Medical Officer of Health, "The South and North Ward playgrounds require considerable alteration before they are likely to be much used by children. The provision of swings and other simple gymnastic appliances, and a smooth firm surface adapted to children's games would greatly enhance their value and popularity." At Hoole a piece of land $6\frac{1}{4}$ acres in extent was acquired in 1902 and laid out in 1903. However, it was not opened as a public recreation ground till May 7th, 1904. It has already been much used. At Hoylake and West Kirby attention is drawn to the extensive Parades constructed along the shore, which, with the Marine Lake, and the lighting of the District by electricity, have tended so much to increase the natural attractiveness of the place. Land at Hoylake, presented to the District Council by Lord Stanley of Alderley, for use as a recreation ground, has been laid out for cricket, football, etc. It is now in regular use. A pavilion has been built at a cost of £130, providing dressing rooms and sanitary conveniences.

Knutsford has always been fortunate in the possession of a large open space (about 50 acres in extent), known as the Heath. In addition to this the District Council has now acquired, by negotiation with Earl Egerton of Tatton, the southern end of the Moor (about 5 acres in extent), lying between the old town and the railway embankment. This has been levelled and fenced; trees and shrubs have been presented and planted. In the water-logged area, excavation of one part and consolidation of another has effected a great improvement. A contribution from the Freeholders' Fund will minimise the expenditure of the rates. The Medical Officer of Health expresses an opinion that the scheme when completed will be one of the greatest aesthetic improvements the District has ever known, and will be found of value from a sanitary point of view also.

This Recreation Ground was practically completed at the close of 1905.

Meteorological Results.—Six Medical Officers of Health furnish records on the meteorology of the year. It is remarkable that three of these records were taken at Bidston, Stalybridge, and Crewe, representing the north-eastern and north-western extremities of the County, and a point in the south about equidistant from the other two points of observation. The fourth record (the entire rainfall only) is from Marple; and the fifth

(the entire rainfall only) is from Dukinfield. The sixth is a very complete return from Hoylake and West Kirby, where, since 1901, meteorological observations have been noted in the Annual Report. The observations were taken at Hoylake—the mean barometer, mean temperature, total bright sunlight and total rainfall are recorded for each month in the year. According to the records given, the mean temperature was 48.4 degrees F. at Bidston (near Wallasey), and at Hoylake the mean temperature varied between 38.7 in February (1 degree below the average for 87 hours) to 58.4 in August (1.2 below the average). The difference in the rainfall is remarkable. The total rainfall in 1907 was as follows:—

Borough of Crewe	...	...	...	27.6	inches
„ Dukinfield	...	...	...	30.85	„
„ Stalybridge	...	...	...	35.44	„
Bidston (near Wallasey)	...	...	...	26.568	„
Wallasey (New Brighton)	...	...	...	28.40	„
Hoylake	...	...	...	26.34	„
Marple...	...	...	...	33.63	„

This list, it will be noticed, includes the total rainfall at New Brighton during 1907, as recorded by Dr. Wm. Bell. The record of Dr. Bell was referred to in the Wallasey Annual Report for 1905, but not in previous years.

The total rainfall at these Stations in 1905 and 1906 are as follows:—

			1905.		1906.
			inches.		inches.
Borough of Crewe...	...	...	37.7	...	39.6
„ Dukinfield	...	...	23.19	...	30.85
„ Stalybridge	...	...	30.8	...	36.17
Bidston (near Wallasey)	...	...	24.011	...	28.076
Wallasey (New Brighton)...	...	...	23.49	...	28.66
Hoylake	...	...	21.96	...	27.93
Marple	...	...	28.23	...	32.95

Inspection of Canal Boats.—Power is given under the Canal Boats Acts, 1877 and 1884, to Sanitary Authorities to cause inspections to be made of canal boats, and no canal boat can be used as a dwelling unless registered. The regulations for registration, fixing the number of persons allowed, promoting cleanliness, and preventing infectious disease in such boats are (as required) the Local Government Board's.

Judging by the Reports, there are 20 Districts in which the provisions of these Acts are in force—the Boroughs of Congleton, Dukinfield, Macclesfield and Stalybridge; the Urban Districts of Altrincham, Lymm, Marple, Nantwich, Northwich, Sale, Sandbach, Wallasey, Winsford and Yeardsley-

cum-Whaley; and the Rural Districts of Bucklow, Congleton, Macclesfield, Nantwich, Northwich and Runcorn. The number of boats inspected varies from year to year, but is generally increasing. In some Districts the increased activity in recent years has been very marked. For example, in Wallasey 71 boats were inspected in 1896, 145 in 1897, 288 in 1898, 245 in 1899, 233 in 1900, 255 in 1901, 231 in 1902, 320 in 1903, 313 in 1904, 331 in 1905, 332 in 1906, and 333 in 1907.

Interments.—It has been stated in previous Reports that the various burial grounds in Cheadle and Gatley were almost full; that land had been purchased in 1901 for a Cemetery, and that laying out the ground had been in progress. In the Report for 1903 it was mentioned that this Cemetery was formally opened in April, 1903. The Church of England part was consecrated in June.

The completion of the Cemetery for Knutsford, at Tabley Hill, was noticed in the Report for 1901. It is situated about a mile from the town, and the site is a beautiful one. The grave-spaces number about 4,100.

Wilmslow Urban District Council having been informed by the Wilmslow Church Authorities that there is only space for a few more graves in the Churchyard, have communicated with the Alderley Edge Urban District Council, asking them to consider the advisability of making a Cemetery for the two Districts. In the Wilmslow Report for 1907 there is no further reference to this matter. However, in the Alderley Edge Report for 1906, it is stated that four acres of land (on the Chelford Road) have been bought for a Cemetery. The ground is suitable for the purpose and the work of laying it out is finished. The new Cemetery was opened in April, 1907.

The Medical Officer of Health for Hazel Grove and Bramhall states that space in the Churchyard at St. Thomas's Church, Hazel Grove, the only one in the District, is becoming limited for burials. Some provision for the near future must be made, and deserves the attention of the District Council.

The Cremation Act, 1902, is an Act of considerable importance from a public health point of view. It is for the regulation of the burning of human remains, and to enable Burial Authorities to establish crematoria.

The Act came into operation on April 1st, 1903, and does not apply to Ireland.

By Section 4, Burial Authorities are empowered to provide and maintain crematoria; but no human remains shall be burnt in any such crematorium, until the plans and site thereof have been approved by the Local Government Board, and the building has been certified by the Burial Authority to the Secretary of State to be complete, built in accordance with such plans, and properly equipped for the purpose of the disposal of human remains by burning.

Under Section 5, no crematorium shall be constructed nearer to any dwelling-house than 200 yards, except with the consent, in writing, of the owner, lessee, and occupier of such house, nor within 50 yards of any public highway, nor in the consecrated part of the burial-ground of any Burial Authority.

Section 6 empowers a Burial Authority to accept donations of land, money, or other property for the purpose of a crematorium.

Section 7 requires the Secretary of State to make regulations as to the maintenance and inspection of crematoria, and prescribes in what cases and under what conditions the burning of any human remains may take place, directing the disposition or interment of the ashes, and prescribing the forms of the notices, certificates, and declarations to be given or made before any such burning is permitted to take place.

Section 8 prescribes very heavy penalties for breaches of the regulations: and under Section 9 the Burial Authority may demand the payment of any such charges or fees for the burning of human remains in any crematorium provided by them, as may be authorised by any table approved by the Local Government Board.

Section 10 provides that nothing in this Act shall interfere with the jurisdiction of any Coroner under the Coroners' Act, 1887, or any Act amending the same, and nothing in this Act shall authorise the Burial Authority, or any person, to create or permit a nuisance.

Under Section 11 the incumbent of any ecclesiastical parish is not obliged to perform a funeral service before, at, or after the cremation of any remains.

Section 12 provides for the fixing, with the approval of the Secretary of State, of fees in respect of burial services.

FRANCIS VACHER,

County Medical Officer of Health.

June 2nd, 1908.

Administrative County of Chester.

SUMMARY

OF

REPORTS

OF

District Medical Officers of Health,

FOR THE YEAR

1907.

SUMMARY OF REPORTS

OF

District Medical Officers of Health, *For the Year 1907.*

CONGLETON

Municipal Borough.

Medical Officer of Health—DR. P. M. DAVIDSON.

Population at Census on April 1st, 1901—10,707.

Estimated Population in middle of 1907—10,707.

Area in Acres—2572.

Birth-rate per 1000 living—26.3.

Death-rate per 1000 living—17.0.

Death-rate from seven principal Zymotic Diseases—0.6.

Deaths under 1 year to 1000 births—127.

The population of this Municipal Borough was 10,744 at the Census in 1891, and 10,707 at the Census in 1901. The decrease in the population during the decennium 1891—1901 was thus 37.

The cause of the diminution in the population is no doubt the decay of the staple trade of the town, and a consequent lessened demand for labour, resulting in people going to obtain employment elsewhere.

During 1907 the number of births registered in the Borough was 282, of which 20 were illegitimate, and the number of deaths registered was 174. To these deaths must be added 15 deaths of residents which took place in public institutions outside the District, and from this must be deducted the names of 6 non-residents, who died in the District. Thus the deaths belonging to the District were 183.

The birth-rate is 0.2 above the average in the 10 years 1897-1906, and the death-rate is 0.9 below the average in the same 10 years.

Congleton Municipal Borough.

The number of deaths of infants under 1 year was 36, being equal to 127 per 1000 births.

Cases of Infectious Disease Notified.—There were 32 cases of infectious disease notified, viz.: 19 diphtheria, 3 erysipelas, 7 scarlet fever, and 3 enteric fever. These cases were isolated, as far as possible, at home.

Zymotic Mortality.—There were 7 deaths from the principal zymotic diseases, namely, 2 whooping-cough, and 5 diphtheria. This number is equal to a death-rate of 0.6.

Diphtheria.—The 19 cases of diphtheria were fairly equally distributed over the year, and in no instance could any cause be discovered. One or two sanitary defects were discovered in houses where the cases occurred, but there were no two cases in the same house, and in most cases the premises were in good sanitary condition.

Scarlet Fever.—The cases were scattered over the year, and in various parts of the District, and were all of a light character.

Whooping-cough and Measles were not prevalent.

Diarrhœa, owing to the cool wet summer did not prevail, and there were not any deaths from the disease.

Influenza was epidemic, in a severe form, in January and February, 1907, and, though only 4 deaths are registered as due to it, no doubt it was the real cause of some of the deaths from respiratory diseases, of which there were a large number.

Tubercular Diseases continue to decrease in number year by year. There were 9 deaths from phthisis, and 7 from other tubercular diseases. It is hard to say exactly to what the improvement may be attributed, except that the general sanitary condition of the District has greatly improved.

Enteric Fever.—There were only 3 cases, in one instance the house was overcrowded, and the drainage defective. No cause could be assigned for the other cases.

Action taken to prevent the Spread of Infection.—All the houses in which infectious disease occurred were

Congleton Municipal Borough.

thoroughly disinfected, and the patients isolated as far as possible, there being no hospital in which to isolate cases other than small-pox.

Proposed Hospital Accommodation.—The need of accommodation for treating and isolating cases other than small-pox is admitted, and neighbouring Authorities have agreed to combine with the Corporation of Congleton in providing a Joint Hospital. However, progress in coming to terms has been very slow.

Small-pox Hospital. — Accommodation for small-pox cases is supplied by the enlarged and improved hospital at Arclid, which is available for the Borough and other Districts within Congleton Union.

Arrangements for Bacteriological Examinations. —In view of the difficulty sometimes experienced of making certain of the nature of suspected cases of typhoid fever and diphtheria, the Corporation have made arrangements for bacteriological examinations to be made by Professor Delèpine, of the Victoria University of Manchester, at a comparatively small cost. The Medical Officer of Health has the necessary apparatus for the collection and transmission of specimens, and will be pleased to hear from practitioners who may wish to have examinations made.

Antitoxin.—Arrangements have been made for the free supply of diphtheria antitoxin, for the use of patients too poor to provide it for themselves.

Steam Disinfector.—Some months ago the Sanitary Committee instructed the Borough Surveyor to prepare plans and estimates for the erection of a disinfecting house and a high pressure steam disinfector, and he reports that the plans and estimates will be ready to present to the Committee in March. It is to be hoped the work will be begun and completed with as little delay as possible. The old disinfecting apparatus having been useless for some time, it is a very serious matter to be without any disinfector.

Coroners' Inquests. — Twelve inquests were held in 1907. The following verdicts were returned :—Syncope following bronchitis, suicide from taking "weed killer," accidentally drowned, result of a fall while intoxicated, syncope under chloroform, hæmorrhage on the brain, convulsions from rickets, and in 4 cases cardiac disease.

Congleton Municipal Borough.

Water=supply.—During 1906 water rights were purchased which increased the supply by 88,000 gallons a day. Thus, with the old supply, the Borough now has 26 gallons per head per day of excellent water.

Sewerage.—The Borough is sewered to outfall works, and additional sewers are made from time to time as occasion requires.

Outfall Works.—These works, which have been mentioned in previous Annual Reports, for several years, as in course of construction, were completed in February, 1906, and have since been in full operation. They consist of 8 large septic tanks and two detritus tanks, in which the sewage is primarily treated. The secondary treatment is arranged for by eight bacteria beds working on the so-called “continuous intermittent system.” In plan all these beds are circular, with concrete floors. The size of the first four constructed is 60 feet in diameter at the bottom, and 54 feet in diameter at the top; the size of the remaining four beds is $61\frac{1}{2}$ feet in diameter at the bottom, and $55\frac{1}{2}$ feet in diameter at the top; the depth of each bed is 5 feet throughout. The first four beds have each a two-arm revolving sprinkler, but as the wind was found to affect these somewhat, the second four beds are arranged for four-arm revolving sprinklers.

The four beds having two-arm revolving sprinklers will probably be provided with four-arm sprinklers shortly.

There is also a large roughing filter for storm water.

All the sewage which used to be treated at the Dane Street Experimental Works is brought to these works. All the sewage of the District appears to be now effectively treated, and there is a man in charge of the works, who will, doubtless, keep the whole plant in good order. The whole operations are carried on without the production of any noticeable effluvium nuisance.

Inspection.—The Medical Officer of Health has visited and inspected the whole District in the course of the year, and many parts of it several times. The Sanitary Inspector is almost daily occupied in some form of sanitary inspection.

Common Lodging=houses.—The Chief Constable, who acts as Inspector of these houses, reports that there are 4 registered in the town, with accommodation for 84 lodgers. 17,423 lodgers were housed in 1907. The houses are clean and sanitary.

Congleton Municipal Borough.

Dairies, &c.—Regulations, under the Dairies, Cowsheds and Milkshops Order, were made by the Corporation on May 15th, 1900, and came into force on June 24th. Fifty inspections were made of dairy premises in 1907, and 15 notices were served for the remedy of defects noticed ; 5 for defective drains, 7 for want of cleanliness, one privy cesspool near the town, and 2 no water supply. One prosecution was necessary.

Slaughter-houses.—There are 15 slaughter-houses in the District, which were regularly inspected ; only 13 are used, and 11 were satisfactory.

Factory and Workshop Act.—There are 12 workshops, including 5 bakehouses, and 3 tailors' shops. Two of the premises were found uncleanly. The Inspector reports that there were 108 premises inspected under the Act, 25 factories, 67 workshops, and 16 bakehouses. Fifteen notices were issued, and most of the defects were remedied. Eleven were for want of cleanliness, 3 failure to affix abstract of Act, and 1 insufficient means of exit in case of fire.

Removing and Deodorizing Excreta.—The method of treating night-soil with acidulated peat-dust, began in 1893, continues to give satisfaction. During the year 87 of the old privy-closets were converted into pail-closets. The number of loads of night-soil removed was 4,159. There were 480 tons of peat-manure sold.

Report of the Surveyor and Inspector.—According to the Report of Mr. Burslam, a considerable amount of sanitary work has been done during the year. Thirty-two houses at which cases of infectious disease had been reported were inspected, 30 disinfected, and 1 sanitary notice served. There were 376 sanitary inspections of houses, besides those incidental to the occurrence of infectious disease.

In all 128 notices were served for the abatement of nuisances complained of, or discovered.

During the year 16 houses were newly supplied with town's water, reducing the number unsupplied to 63 houses. Three samples of town's water and 36 of food and drugs were analysed.

Sixteen houses were re-drained during the year and one street sewered.

Canal Boats.—Eleven Canal Boats were inspected during 1907, and no reports appear to have been made of any infringement of the Canal Boats Acts or Regulations made thereunder.

CREWE

Municipal Borough.

Medical Officer of Health—DR. A. J. LAIRD.

Population at Census, 1901—42,074.

Estimated Population in middle of 1907—47,904.

Area in acres—2,185.

Birth-rate per 1,000 living—26.1.

Death-rate per 1,000 living—11.1.

Death-rate from seven principal Zymotic Diseases—0.9.

Deaths under one year to 1,000 births—108.

The population of this Municipal Borough was 42,074 at the Census in 1901, and the population of the corresponding area was 32,774 at the Census in 1891. The increase in the population during the decennium 1891-1901 was thus 9,300; that is 28.37 per cent.

The estimated population at the middle of 1907 was 47,904. This estimate is based upon the number of inhabited houses as ascertained from the rate-books, and the average number of persons per house at the last census. This method of estimating the population differs from that of the Registrar General, who assumes that the same annual rate of increase will be maintained from 1901 to the next census 1911, as existed in the period 1891 to 1901. The two methods give almost the same result, the Registrar General's estimate being 48,183.

Both methods are subject to error, which increases with the length of time from the last census. The first method is probably best suited for our purposes, although one factor (the average number of persons per house) varies from year to year. At the census in 1891 it was 5.011, and in 1901 it was 4.79. During times of depression in trade, when wages are low, the average house population increases (by two families occupying one house, etc.) and the number of inhabited houses is diminished, with the result that there is shown an apparent check on the increase of the population.

The Borough is divided into four wards. The population of the wards estimated for the middle of 1907 is as follows:—

Central Ward...	...	...	...	10,645
West Ward ...	...	...	...	10,775
North Ward ...	...	...	...	11,567
South Ward ...	...	...	...	14,917

Geology of Crewe and Neighbourhood.—The soil upon which Crewe and the neighbouring villages are built consists

Crewe Municipal Borough.

wholly of drift deposits. The whole of the Borough is built upon a re-deposited boulder clay (red, blue, and yellow brick clays) intersected here and there with irregular lines and pockets of sand and gravel; probably the remains of old river and brook courses.

This clay deposit, and an underlying bed of stratified clay, lie in a hollow of stratified drift sand, and attain a depth of from 12 to 100 feet.

The drift-sand rises to the surface in a bay-like curve in the outlying villages of Wistaston, Shavington, Weston, Crewe Green and Haslington.

The whole of these deposits seem to be laid in a deep hollow in the Keuper, a brook which passes through the centre of the Borough, appearing to have cut down to this formation.

Elevation.—The Borough is situated upon the Valley Brook, a tributary of the River Weaver. The mean elevation is about 170 feet above sea level, and varies from 113 feet at the lowest part of the sewage farm to 200 feet at Hightown.

HEIGHT ABOVE SEA LEVEL.

Sewage Farm (west of Queen's Park)	...	113 feet
The Valley ... ..	...	145 „
Market Square (south-west corner)	...	184 „
Isolation Hospital ... ..	...	182 „
Nantwich road (east end) ... ..	...	188 „
Hightown (St. Paul's Church—north side)		200 „

Area.—The Borough has an area of 2,185 acres, and comprises the Civil Parish of Monks Coppenhall, and parts of the Civil Parishes of Church Coppenhall, Shavington-cum-Gresty, and Wistaston, the three last named parts having been added on 24th March, 1894, by order of the Local Government Board.

New Houses.—The number of plans passed for new houses in 1907 was 91. The number passed in 1906 was 100, in 1905 it was 89, in 1904 it was 157, in 1903 it was 225, in 1902 it was 400, in 1901 it was 243, and in 1900 it was 201.

The number of “Habitation” certificates granted in 1904 was 181, in 1905 it was 135, in 1906 it was 106, and in 1907 the number granted was 64.

Houses and Rateable Value.—As showing the small rateable value of a large portion of the houses in Crewe, the

Crewe Municipal Borough.

following statement is interesting. It refers to the houses on the Rate-books on September 30th, 1907.

Houses rated under	...	£5 per annum...	...	198
„ „ at £5 and under £10	„ „	„ „	...	6,937
„ „ £10	„ £20	„ „	...	2,629
„ „ £20	„ £30	„ „	...	310
„ „ £30	„ £40	„ „	...	93
„ „ £40	„ £50	„ „	...	68
„ „ £50	„ £60	„ „	...	20
„ „ £60	„ £70	„ „	...	11
„ „ £70	„ £80	„ „	...	7
„ „ £80	„ £90	„ „	...	11
„ „ £90	„ £100	„ „	...	5
„ „ £100	„ £200	„ „	...	25
„ „ above £200	„ „	„ „	..	8
Total ...				10,322

From the above it will be seen that over 94 per cent. of the houses in Crewe are rated at under £20 per annum, and that over 69 per cent. are rated at under £10 per annum.

Marriages.—During 1907 there were solemnised 313 marriages, corresponding to a marriage-rate of 13.0 per 1000 of the population.

The marriages and marriage-rates in Crewe during the ten years, 1897-1907 are given below. The marriage-rates in England and Wales are added for purposes of comparison :—

Year.	No. of Marriages.		Marriage-rate.	Marriage-rate in England and Wales.	
1897	...	244	...	12.64	16.0
1898	...	272	...	13.76	16.2
1899	...	315	...	15.56	16.5
1900	...	304	..	14.68	16.0
1901	...	250	...	11.80	15.9
1902	...	310	...	14.32	15.9
1903	...	297	...	13.05	15.6
1904	...	242	...	10.50	15.2
1905	...	261	...	11.2	15.3
1906	...	285	..	12.0	15.6
1907	...	313	...	13.0	...

Crewe Municipal Borough.

Births and Deaths.—In 1907 the number of births registered was 1251, of which 42 (3.8 per cent.) were illegitimate. The birth-rate is 5.6 lower than the average Crewe birth-rate in 1897–1906. In 1907 the number of deaths registered (including 25 deaths of persons belonging to the Borough, which took place in Nantwich Workhouse, &c., and excluding 7 deaths of persons not belonging to the Borough) was 536. The death-rate is 4.2 below the average death-rate in Crewe in 1897–1906.

Following are the number of deaths and death-rate during each month of 1907 :—

Month.					Total No. of deaths.	Death-rate.
January	..	...	...	...	49	12.2
February	...	...	...	...	45	11.2
March	...	...	...	...	56	14.02
April	...	...	...	...	32	8.01
May	...	...	...	..	43	10.7
June	...	...	...	...	42	10.5
July	...	...	...	...	41	10.2
August	...	...	...	...	43	10.7
September	..	...	...	...	32	8.01
October	...	...	...	...	51	12.7
November	...	...	...	...	45	11.2
December	...	...	...	...	57	14.2
Whole Year					536	11.1

Deaths of Illegitimate Children.—Six of the deaths recorded in 1907 were of illegitimate children. Particulars of these are as follows :—

Age.	Sex.	Cause of death.
28 days	M.....	Premature Birth.
7 years	F.....	Acute General Tuberculosis.
17 „	M....	Heart Disease, Dropsy.
11 months	F.....	Bronchitis, Pneumonia.
10 „	M.....	Bronchitis, Convulsions.
3 „	M.....	Premature Birth, Debility from Birth.

Crewe Municipal Borough.

The death-rates per 1,000 births of each class among legitimate and illegitimate children are shewn below.

	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Infantile death-rate of legitimate children ...	144	166	162	138	180	130	147	159	131	118	108
Infantile death-rate of illegitimate children ...	172	255	228	125	200	156	166	162	256	224	142

Still-births.—During 1907 the bodies of 72 still-born infants were brought to the cemetery and Coppenhall Churchyard for burial. The still-births were, therefore, equal to 5.7 per cent. of the births registered.

Infantile Mortality.—Of the 536 deaths, 136 were of infants under a year old. The number of deaths of infants in 1907 was equal to 108 per 1,000 births. During the ten years, 1897–1906, the proportion of deaths of infants to each 1,000 born was 147 in Crewe.

The extremely low mortality was due to the great reduction in deaths from diarrhoeal diseases, and may be attributed chiefly to the cool wet weather experienced during the summer and autumn months. This had the effect of slightly increasing the mortality from respiratory diseases, but the increased loss from this source was more than compensated by the immense reduction in the deaths from diarrhoea.

The Notification of Births Act, 1907, which was passed in August last, has for its object the reduction of infantile mortality. The speedy notification of all births to the Medical Officer of Health, enables the Health Authority, when necessary, to advise the mother in regard to the rearing and nurture of her child.

The Act has been under the consideration of the Health Committee, and a Sub-Committee has been appointed to confer with the various ladies' visiting committees, mothers' meetings, etc., in the town, to ascertain whether they would be willing to co-operate with the Council in carrying out the provisions of the Act.

It has been pointed out in previous Annual Reports that the principal causes of a high infant-mortality rate, so far as Crewe is concerned, are apparently :—

1. Ignorance on the part of mothers as to proper methods of infant feeding and management.

Crewe Municipal Borough.

2. Insanitary condition of the home and its environment, *e.g.*, dirty houses, unpaved yards, proximity of privy middens, etc.

Employment of married women in factories with its resulting early weaning and hand-feeding is not an element in the production of a high infant mortality of any importance in Crewe.

Uncertified Deaths.—There were only 2 deaths registered in 1907, the cause of which was not certified by a medical practitioner, or by the Coroner, after inquest. The proportion of uncertified deaths to the whole number registered, for 1907, is given in the following tabular form :—

Year.	Uncertified deaths.				Percentage of total deaths.	
1893	8	...	...	1.1
1894	8	...	..	1.5
1895	6	...	...	0.98
1896	4	...	..	0.7
1897	3	...	...	0.4
1898	3	...	...	0.4
1899	8	...	...	1.1
1900	10	...	...	1.4
1901	11	...	...	1.5
1902	3	...	...	0.4
1903	6	...	...	0.9
1904	3	...	...	0.4
1905	3	...	...	0.4
1906	1	...	...	0.1
1907	2	...	..	0.3

Zymotic Diseases.—The number of cases of zymotic disease which came to the knowledge of the Medical Officer of Health, during the year 1907, was 507, viz. : 37 diphtheria, 23 erysipelas, 442 scarlet fever, and 5 enteric fever. Of these 19 cases of diphtheria, 1 of erysipelas, 394 of scarlet fever, and 2 of enteric fever were removed to hospital. There were 45 deaths from the principal zymotic diseases, viz. : 2 from measles, 6 from scarlet fever, 12 from whooping-cough, 6 from diphtheria, 3 from enteric fever, and 16 from diarrhœa. The death-rate from these 7 diseases in Crewe during 1907 was 0.9 per 1,000 living.

Vaccination.—The following return is submitted through the courtesy of the Registrar of Births and Deaths, respecting

Crewe Municipal Borough.

the vaccination of children whose births were registered in the Borough, in the ten years, 1898–1907 inclusive :—

YEAR.	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Births registered	1365	1400	1420	1311	1412	1454	1425	1318	1260	1251
Successfully vaccinated	913	945	990	900	1016	1060	1050	1014	922	860
Certificates of insusceptibility	1	3	5	6	3	2	5	3	3	2
Certificates of exemption (Con- science Clause)	35	66	40	33	22	33	21	44	60	113
Had small-pox ... ..	...	...	...	...	...	...	...	...	...	...
Died Unvaccinated	159	155	133	143	128	140	133	101	100	114
Postponed by medical certificate	75	61	43	24	33	43	35	30	53	28
Removal to other districts	52	44	59	49	51	56	50	49	55	75
In abeyance	130	126	150	156	159	120	142	77	69	59
Percentage successfully vac- cinated	66	67	69	68	71	72	73	77	73	68
Percentage successfully vac- cinated, excluding those who died unvaccinated	75	75	76	77	79	75	80	83	80	75

Disinfection.—During 1907 there were 488 houses disinfected, viz. :

After notification of infectious diseases	...	444
After measles ... ..	...	3
After deaths from phthisis	...	26
After deaths from whooping-cough	...	9
After deaths from influenza	...	5
After deaths from diarrhœa	...	1

Seven schools were also disinfected during 1907.

The bedding and clothing from the houses, as well as 47 sets of bedding from the Cottage Hospital, were removed to the Isolation Hospital, and disinfected by passing through the Washington Lyon disinfector.

The following quantities of disinfectants were used during the year :—

Carbolic Powder	...	1 ton
Izal Powder	...	10 cwts.
Izal Fluid	...	20 gallons
Formalin Tablets	...	70 lbs.

The number of persons supplied with disinfectants on application at the Sanitary Office was 1025.

Bacteriological Examinations.—The number of specimens received from Medical Practitioners in the Borough for examination during the year was 67, of which 19 gave positive and 48 negative results.

Crewe Municipal Borough.

Specimen.	Number received	Result	
		Positive	Negative
Typhoid Fever—Blood ...	10	3	7
Diphtheria—Swab ...	10	1	9
Phthisis—Sputum ...	42	15	27
Others ...	5	...	5
Totals ...	67	19	48

Measles.—Crewe was remarkably free from measles during 1907, the deaths from this disease being only 2, equal to a death-rate of 0.4.

There were 25 certificates granted for the exclusion of children from school on account of measles, as compared with 326 in 1906.

Whooping-cough caused 12 deaths in 1907, being equal to 0.25 per 1000. The number of deaths registered is 5 more than in 1906. The average annual number of deaths since 1874 is 11. The number of certificates granted for the exclusion of children from school on account of whooping-cough was 93, as compared with 81 in 1906.

Cerebro-spinal Meningitis.—A case of cerebro-spinal meningitis, in a girl aged eight years, was brought to the notice of the Medical Officer of Health, as it was thought that, owing to the prevalence of the epidemic variety of this disease, precautions should be taken to establish the diagnosis.

Lumbar puncture was performed, and a quantity of cerebro-spinal fluid drawn off for examination. This was sent to Professor Delépine, and in due course the report was received that “microscopical examination of the fluid showed very few cells, and no organisms. There is therefore no bacteriological evidence to shew that the patient was suffering from epidemic cerebro-spinal meningitis.”

It was considered desirable that the Infectious Disease (Notification) Act should be extended to include this disease, and

Crewe Municipal Borough.

the Local Government Board, on the application of the Council, ordered that the Act should apply for a period of twelve months from the 18th of May.

Diphtheria (including under this term Membranous Croup), was the cause of 6 deaths in 1907. As 37 cases were notified in 1907, 16.2 per cent. of the notified cases were fatal. The number of cases and deaths in the ten years 1897—1906, and the fatality per cent. are as follows :—

	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Cases . . .	66	40	46	36	112	136	150	53	47	32
Deaths . . .	11	3	14	4	16	28	18	3	4	4
Fatality %	16.6	7.5	30.4	11.1	14.2	20.5	12.0	5.6	8.5	12.5

The number of cases notified was 5 more than in 1906, and 52 under the average yearly number reported, since notification began. The number of deaths was 6. The average annual number of deaths since 1874 has been 7.

At no time during the year did the disease show any tendency to become epidemic, the largest number notified during any month being nine. The number of cases notified each month was :—

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
3	3	2	1	4	9	1	3	2	4	4	1

From the South Ward 15 cases were notified, 10 from the Central Ward, 7 from the North Ward, and 5 from the West Ward.

There was very little evidence of a tendency to spread, for in only two instances out of the total number notified did a secondary case of diphtheria occur in the same house. The same child was notified twice during the year—in June and again in November. A bacteriological examination of the throat was made in June and proved negative. No examination was made in November.

Nineteen cases were removed to Hospital, of whom one died ; eighteen were treated at home, of whom five died.

In addition to the usual measures for dealing with diphtheria, hospital isolation, disinfection, bacteriological diagnosis, etc., since 1900 the Health Committee have provided Antitoxin, first at cost price, and, since 1901, free of cost, to all unable to afford it. During the year 103 vials, each containing 2,000 units, were so used.

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Scarlet Fever.—During 1907, there were 442 cases notified, and 6 deaths. Thus 1.3 of the notified cases proved fatal. The number of cases and deaths in the ten years, 1897-1906, and the fatality per cent. are as follows:—

Year	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Cases ...	201	57	50	211	160	96	212	351	147	442
Deaths ...	7	3	1	8	6	3	9	11	4	6
Fatality %	3.4	5.2	2.0	3.7	3.7	3.1	4.2	3.1	2.7	1.3

The number of cases notified is greatly in excess of any previous year, being a hundred per cent. above the yearly average. The monthly notifications were considerably above the average from the beginning of February, but it was not until September that the epidemic began to assume unusual proportions. The notifications suddenly increased during the first week of September, rising rapidly to a maximum toward the end of October. The number of cases notified during the last four months of the year was 293, or nearly 67 per cent. of the total for the year.

The only year which approaches 1907 in the number of cases is 1904, and from that date the prevalence of the disease has steadily diminished. Since 1897, when the disease first became compulsorily notifiable, the experience has been that a year of unusual sickness from the disease has been usually followed by two years of comparative immunity. This accords with what is known of scarlet fever in this country and elsewhere, and although the precise reasons for such periodic cycles are not definitely known, it is probable that one is the steady growth of a susceptible population during the inter-epidemic periods.

The fatality of the disease was extremely low, 1.3 per cent., as compared with 4.1 per cent. in the preceding year. One of these deaths was of a child who sickened while away from home, and died in the Isolation Hospital at Carlisle. Of the remaining five who died in Crewe, the period elapsing between removal to hospital and death was—1 day, 2 days, 5 days, 9 days, and 25 days. One death occurred in February one in June, two in August, and two (including the Carlisle case) in September.

The type of disease was extremely mild, and led to a large number of cases being altogether overlooked until a late period. Some of these were only recognised after the occurrence of a second case of a more unmistakable character, or only after desquamation aroused suspicion as to the real nature of the sickness. With few exceptions these overlooked cases had been going about freely, some to the week-day and Sunday Schools, and several were detected by their teachers while sitting among their class-mates.

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The influence, however, which school attendance had on the spread of the disease was comparatively slight. It was chiefly at home that the disease was contracted, and this must be attributed to cases being able to go about during the early stages, and visitation by sympathetic neighbours whenever a child became ill. It is a fairly common practise for a neighbour to be called in to give an opinion as to the nature of any illness in a child, or to assist in nursing, and in this way many opportunities for the transference of the disease from house to house arise.

In some cases it was found that after returning home from hospital the child developed nasal catarrh. This resulted probably from the change of surroundings, from a hospital ward, where the temperature is maintained at a uniform level night and day, to a fireless bedroom at home. Not infrequently, too, children who have had every care in hospital are allowed to run about in the cold immediately on their return home. This nasal catarrh apparently creates an increased virulence in organisms which have lain dormant in the nose or throat, and fresh infection results.

It is impossible to ascribe this continued or recurrent infection to inefficient disinfection, before dismissal from hospital. The skin and hair of each patient receive most careful treatment; ears, mouth, and nose are douched with an antiseptic lotion, and a disinfectant bath is given before dismissal.

In addition to a large number of cases being overlooked until late in the illness, it is not at all impossible that a few may never have been recognised at any period. In many families there was a history of sore throats among other members of the household, and it is probable that some of these may have acted as carriers of infection.

Enquiries were made in every instance into the possibility of any other source of infection, e.g., milk, but it was readily seen that this bore no part in spreading the disease. There was, it is true, in at least two instances, some tendency to grouping around schools, but this was also a comparatively insignificant factor in the spread of infection. The evidence, which was carefully sifted as each case arose, pointed conclusively to personal infection at home, as the all-important cause of the epidemic; its prolonged continuance being due to a series of overlooked cases infecting a susceptible population.

While this was undoubtedly the cause of the outbreak, it was not the only one. Among the minor causes, there is noted the apparently too early release of cases from isolation, with the

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result that subsequent or "return" cases arise. This is a phenomenon which occurs among cases whether treated at home or in hospital, but, as the facts are more readily obtainable, it is chiefly among hospital cases that they are recorded.

Enteric Fever.—During 1907 enteric fever caused 3 deaths, out of the 5 cases notified. The number of cases and deaths in the ten years, 1897-1906 and the fatality per cent. are as follows :—

Year	...	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Cases	...	28	32	30	22	15	17	11	2	10	5
Deaths	...	3	7	4	10	3	2	4	1	4	3
Fatality %		10.7	21.8	13.3	45.4	20.0	11.7	36.4	50	40	0

One case notified proved to be suffering from broncho-pneumonia, so that only four undoubted cases of enteric fever were notified.

In two instances there was only one case in the family. The other two cases were sisters living in the same house. The history of these latter showed that about three weeks before the onset of the first case their mother had sickened from an illness which proved fatal. The illness was of a somewhat obscure nature, but in the light of subsequent events, the medical attendant considered that it also was enteric fever.

In the other two cases there was a history of a visit paid to another town one or two months before the onset of symptoms, but it was impossible to trace any definite source of infection.

The average annual number of deaths from enteric fever for 32 years since 1874 is six.

Diarrhœa was the cause of 16 deaths in 1907. Of 16 who died, 15 were young children under five years old. Thus the diarrhœa death-rate was equal to 0.33 per 1000 living. The average annual number of deaths from this cause since 1874 was 26.

The number of deaths from diarrhœa and enteritis in 1907 was 19, a number which is equal to 0.39 per 1,000 living.

Erysipelas.—Twenty-three cases of erysipelas were notified and 1 death was ascribed to the disease in 1907. The number of cases and deaths in the ten years, 1897-1906, and the fatality per cent. are as follows :—

Year	...	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Cases	...	115	49	62	44	40	40	40	52	31	21
Deaths	..	9	3	2	0	3	4	7	5	1	2
Fatality %		7	6	3	0	7.5	10	17	9.6	3.2	9.5

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In 4 cases there was a history of injury. The parts affected were :—The face, 19 cases ; other parts, 2 cases.

Puerperal Fever.—There were no cases notified. The number of cases and deaths in the ten years, 1897-1906, and the fatality per cent. are as follows :—

Year	...	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Cases	...	7	4	10	7	1	4	6	1	10	0
Deaths	...	3	2	7	5	0	2	2	3	5	0
Fatality %		42	50	70	71	0	50	33	?	50	0

As these are cases which no medical man or midwife wishes to have in his or her practice, it not infrequently happens that the patients do not receive quite such careful attention as the serious nature of the disease necessitates, while at the same time there is always the risk to which other lying-in women may be exposed. It was for these reasons that the Health Committee decided early in 1905 that, whenever the accommodation was available, cases of puerperal fever should be admitted to the Isolation Hospital.

Phthisis and other forms of Tuberculosis.—During 1907, there were 27 deaths registered as due to phthisis, and 26 deaths registered as due to other forms of tuberculosis. Thus the phthisis death-rate was equal to 0.5 per 1,000 living, and the death-rate from all forms of tubercular diseases was equal to 0.5 per 1,000 living. Of the 27 who died from phthisis, 16 were males and 11 females. In Manchester, where a special enquiry has been prosecuted into the phthisis mortality for a number of years, much valuable information on this subject has been obtained. The results of these enquiries point to personal infection, while at work, as the principal source of infection. This would account for the greater incidence of the disease among the male population, along with other known contributing factors of a character likely to depress vitality and affecting mostly men, such as exposure, intemperance, poverty, etc.

In 1906 the Health Committee were unsuccessful in their application to the Local Government Board to have consumption made a compulsorily notifiable disease. During 1907 it was decided that an attempt should be made to have cases notified voluntarily, and to induce medical men to do so by offering the use of spare accommodation in the Isolation Hospital when available, for training such patients in methods of prevention. Owing however to the epidemic of scarlet fever, this plan had to be postponed, but it is hoped that it will soon be possible to go on with the scheme.

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The average annual number of deaths from phthisis, since 1874, was 30.

The number of deaths which have occurred from tubercular disease, other than phthisis, since 1893, is as follows :—

	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Tubercular Meningitis	4	7	13	6	9	23	7	10	12	12	9	5
Tubercular Peritonitis and Tabes Mesenterica ... }	7	14	23	15	12	18	13	18	20	16	5	14
Other forms ...	2	2	5	6	18	7	14	7	13	16	13	7
	13	23	41	27	39	48	34	35	45	44	27	26

Influenza was the registered cause of 9 deaths in 1907, being equal to a death-rate of 0.18 per 1,000 living. In 1906 there were 5 deaths from influenza.

Method of dealing with Infectious Disease.— Each case when reported is at once visited, and enquiries are made as to the possible sources of infection, the means of isolation adopted and available, the practicability of adequate nursing and bathing arrangements, etc. Where good arrangements cannot be made at home, removal to hospital is advised. Disinfectants are supplied to the house. If the case is not removed, a form is left for signature, to be sent in when the patient has recovered, and disinfection may be carried out. Notice is also given to the parents requiring them to keep their other children away from school, and communications are sent to Head Teachers, while the librarian at the Free Library receives a weekly list of infectious houses.

On the admission of each child to hospital, its name and other particulars are entered in a case book by the Medical Officer, who also, in the case of scarlet fever, sends a notice to the parents, saying that the Corporation will not be liable for future infection which may occur at home after the child's discharge, but that all due care will be exercised whilst the child is in hospital. After the ambulance attendant has taken a case to the hospital, he again visits the house, disinfects the infected room, and removes all the infected bedding, etc., to the steam disinfector. When disinfection is completed he again conveys the bedding, etc., to the house.

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Isolation Hospital Accommodation.—The accommodation provided for the isolation and treatment of cases of infectious disease (apart from small-pox) consisted originally of two pavilions, and an observation block, containing in all 28 beds. This has been in use since October 16th, 1897, and was erected at a cost of £9,500 (including the cost of the site). Owing to the rapid increase in the population, and the increasing number of patients treated, it was found necessary to enlarge the hospital by the addition of a two-ward pavilion for diphtheria, together with extra housing accommodation for the nursing staff. The additions were commenced at the beginning of 1903, and were ready for occupation on the 30th March, 1904. The plans for the extension were prepared by Mr. George Bolshaw, of Southport, who was the architect for the original hospital, and the work was carried out by Messrs. Garner & Son, of Crewe. The total cost of the pavilion and addition to the house was £3,066.

The Small-pox Hospital is situated upon the Corporation Farm, on the north side of Pym's Lane, off Minshull New Road. As it originally existed, excluding the part occupied by the caretaker and his family, there were two bedrooms available for patients, with suitable accommodation for a nurse. During 1903 further accommodation was provided by fitting up a small galvanised iron pavilion alongside the farm house. The hospital has been unoccupied during the year, but has been kept ready for any emergency.

The full staff consists of the matron, 8 nurses (2 charge, 4 assistant, and 2 probationer nurses), and 6 maids (cook, housemaid, scullery maid, 2 ward maids, and laundry maid). There is a non-resident ambulance attendant, who also acts as disinfecter for the Health Department, and a gardener. Occasional extra assistance has to be obtained in the laundry and grounds, and during 1907 the nursing staff was augmented in order to cope with the epidemic of scarlet fever.

A much-needed improvement has been effected during the year by the introduction of electric power into the laundry. The water pipes also have been entirely replaced by tin-lined pipes.

The following statement shews the number of cases dealt with during 1907 :—

Crewe Municipal Borough.

	In Hospital Dec. 31st, 1906	Admitted	Discharged	Died	In Hospital Dec. 31st, 1907
Scarlet Fever ...	16	394	328	4	78
Diphtheria ...	...	19	18	1	...
Enteric Fever ...	1	2	2	1	...
Erysipelas ..	...	1	1	...	...
For Observation...	..	4	4	...	...
Totals ...	17	420	353	6	78

In addition to the disinfection of bedding and clothing taken from infected houses or from the Hospital Wards, it will be seen that a considerable amount of work has been done for the Cottage Hospital in disinfecting bedding which has become infected with septic discharges.

The following shews the annual number of patients admitted to the hospital since its opening, and the percentage of cases of scarlet fever removed to hospital :—

	Total Number of Cases admitted.			Percentage of Scarlet Fever cases removed.	
1897 (from October) ...	26	...	...	—
1898 ...	68	...	...	64%	
1899 ...	73	...	...	76%	
1900 ...	158	...	...	65%	
1901 ...	129	...	...	69%	
1902 ...	102	...	...	74.5 %	
1903 ..	169	...	...	76%	
1904 ...	298	...	...	81%	
1905 ...	160	...	...	81%	
1906 ...	141	...	...	92%	
1907 ...	420	..	...	93.8 %	

The following statement of expenditure for the year ending 31st December, 1907, was supplied by the Borough Accountant :—

Crewe Municipal Borough.

EXPENDITURE.

	£	s.	d.	£	s.	d.
Salaries of Matron, Nurses, etc. ...				344	13	4
Porters' Wages (proportion) ...				72	14	0
Nurses' Uniform				10	7	11
Maintenance of Patients and Staff—						
Groceries	233	11	7			
Butchers' Meat	152	11	9			
Fish, Ice, etc.	19	16	9			
Vegetables	23	12	8			
Milk	119	19	4			
Bread	51	16	2			
	<hr/>			601	8	3
Druggists' Sundries				34	16	0
Drapery, Crockery, Hardware, Cleaning, Materials, etc. ...				117	11	3
Repairs to Vans, Laundry Fittings, Disinfector, Electric Light Fittings, etc.				27	11	8
Maintenance of Buildings, Paint- ing, etc.				58	12	4
Gas				19	8	8
Electricity				84	6	11
Water				12	6	0
Rates and Taxes				49	14	8
Insurance				7	2	7
Telephone Charges				11	4	0
Fuel				147	11	11
Cultivation of Grounds ...				55	19	10
Horse Hire for Ambulance, etc. ...				91	10	0
Rent of Small-pox Hospital ...				20	0	0
Interest on cost of Electric Main...				13	11	9
Printing, Stationery, Advertising, and Postages				6	16	9
Electric Motor, etc., for Laundry				48	9	10
Asphalting walks				13	1	8
Renewal of water pipes ...				36	13	7
Furniture and Repairs ...				21	13	0
Sundries				6	3	2
	<hr/>			£1,913	9	1

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The income of the hospital for the year 1907 is stated as hereunder:—

	£	s.	d.
Removal and Maintenance of Patients ...	131	16	0
Rent of Land	2	5	0
Repayment by Cheshire County Council ...	262	10	2
	<hr/>		
	£396	11	2
	<hr/>		

The cost of maintenance per case; the average daily number of patients, and their average residence, etc., since the opening of the hospital are shown in the following table:—

Year.	Patients.			Total expenditure.	Average cost per patient.	Daily cost per head for provisions		Provisions				
	Total treated.	Average daily number.	Average residence in days.			s.	d.					
				£	s.	d.	£	s.	d.	£	s.	d.
1898	68	9.1	48.0	1,020	2	0	15	0	0	2	4	378 19 6
1899	73	9.6	48.0	1,083	7	1	14	16	9	1	11½	347 4 9
1900	158	21.3	47.0	1,161	11	8	7	7	0	1	1½	417 19 0
1901	129	17.0	48.0	1,367	0	10	10	12	0	1	5½	452 18 0
1902	102	11.7	42.0	1,173	5	9	11	10	0	1	5½	314 10 7
1903	169	22.4	48.5	1,404	6	7	8	6	2	0	11½	398 19 7
1904	298	34.2	42.0	1,642	14	3	5	10	3	0	10¾	561 2 4
1905	160	16.7	38.5	1,592	0	3	9	19	0	1	7¼	488 19 2
1906	141	16.0	41.6	1,408	12	9	9	19	9	1	3½	384 15 8
1907	420	38.8	32.7	1,893	9	1	4	10	1	0	10¾	601 8 3

N.B.—The above calculations of cost do not include repayment of principal, nor payment of interest on capital. The rent of the small-pox hospital is also deducted.

The average length of stay in hospital in 1907, was as follows:—

	Days
Scarlet Fever Patients, excluding cases which died	30.0
Scarlet Fever Patients, including cases which died	32.7
Diphtheria and Membranous Croup Patients, excluding cases which died	27.2

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	Days
Diphtheria and Membranous Croup Patients, including cases which died	27.6
Enteric Fever Patients, excluding cases which died	32.3
Enteric Fever Patients, including cases which died	27.0

School Hygiene.—The schools have been visited periodically, and special visits have been made at the request of School Teachers. A large number of children have been brought for examination by Teachers and School Attendance Officers.

The following were the only schools closed during the year on account of epidemic sickness. New Street Infants' School was closed four days before the beginning of the Easter holiday, so that it did not re-open until the 8th April.

School.	Closed.	Re-Opened.	Disease.
Pedley Street Infants'	January 28th.	February 11th.	Measles.
New Street Infants' ...	March 25th.	March 29th.	Mumps.

The following table shows the number of children excluded from school during 1906 and 1907 on account of infectious diseases, and whose absence was notified to the Health Department by the Head Teachers and School Attendance Officers :—

	TOTALS. 1906.	TOTALS. 1907.
Measles	326	25
Whooping Cough	81	93
Chicken-pox	71	90
Ringworm	22	9
Mumps	125	219
Skin Disease	40	14
Miscellaneous	151	168
TOTALS	816	618

Playgrounds and Open Spaces.—Those owned by the Corporation are :—

The Queen's Park.--Area a little over 35 acres, situate in the South Ward, at the extreme south-west boundary of the town.

South Ward playground, area 11,501 square yards.

West Ward playground, area 8,356 square yards.

North Ward playground, area 16,429 square yards.

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Abatement of Nuisances.—The Sanitary Inspector reports that he has obtained the abatement of a large number of nuisances during the year. In 196 instances the nuisances were due to defective house drains, 318 were due to defective ashpits, 131 were due to defective pail-privies, 62 were due to defective water-closets, 32 were due to defective rain spouts and gutters, &c. There were 4 smoke nuisances dealt with.

During the year 1901, bye-laws were adopted prohibiting the deposit of filth or wet refuse in dry ash-pits, and the keeping of swine within 90 feet of any dwelling house.

Reconstruction of Privies, &c.—The following figures give the approximate numbers of the different forms of closets, &c., existing in the town at the end of 1907 :—

Water Closets	...	...	...	...	6,297
Waste Water Closets	...	...	...	...	1,016
Pail Closets	...	...	...	...	3,143
Fixed Receptacles	...	...	...	...	2
Covered Privy Middens	...	...	...	...	851
Uncovered Ashpits	...	...	...	...	69
Covered Ashpits	...	...	...	...	2,379
Dustbins	...	...	...	...	6,863
Baths	...	...	...	...	1,771

The work of converting privy middens, etc., into water-closets shows a very considerable increase, the total being 312, as compared with 171 in the previous year. It was necessary to take proceedings in seven instances before the work was done.

The work of reconstruction has been pushed forward steadily for a number of years, with the result that the old insanitary conveniences, such as cesspools and mixens, are gradually disappearing, and their places taken either by water closets or by pails and ashbins. This work is of the utmost importance, and the fact that steady headway is being made, without, so far, the necessity for taking legal proceedings, is a testimonial of a very high character to the perseverance and tact of the Sanitary Inspector, Mr. Urquhart.

Principal Industries.—The bulk of the male population is employed at the London and North-Western Railway Company's Works. There are also clothing and Fustian Cutting Works, which chiefly employ female labour.

Offensive Trades.—There are now two gut-scraping businesses carried on in the Borough. One of these was established in 1905, in Richmond Road, and the premises are of modern

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construction. Both businesses from a sanitary point of view are well regulated and have been conducted so as to be free from nuisance.

Cowsheds.—There are 51 Cowsheds in the Borough. These have all been frequently inspected during the year, and in several some slight improvements effected. Their structure, however, leaves much to be desired, and it is hoped that the attention which is given to them will impress upon their occupiers the necessity for greater cleanliness.

Dairies and Milkshops.—There are 125 premises on the register where a retail trade in milk is carried on. Here also, as with the cowsheds, the need for greater cleanliness is very apparent.

The following additional regulation prescribing precautions to be taken by purveyors of milk and persons selling milk by retail in the Borough, against infection or contamination, came into force on August the 1st, 1906 :—

“Every purveyor of milk or person selling milk by retail,
“shall cause every vessel containing milk for sale to be kept
“properly covered, or to be otherwise sufficiently protected
“from contamination by dust or flies.”

The Royal Commission on Tuberculosis issued a second interim report during the year, and some of the conclusions are of the utmost importance in relation to milk supplies.

The following is a Summary of the results which the Commission has arrived at :—

“There can be no doubt but that in a certain number of cases, tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis.”

Slaughter-houses.—The number of slaughter-houses is fifteen. These are all kept in a fairly satisfactory condition.

Meat Inspection.—This is a matter in which the Butchers Vigilance Association has been of the greatest service. By the supervision which this Association exercises over the trade, the quality of meat exposed for sale is of a high standard. The ready co-operation of the Members of this Association with the Health Department is a matter for congratulation, as with the present staff, and considering the number of places in which

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slaughtering is carried on, anything like efficient inspection is extremely difficult, if not quite impossible to attain.

Thirteen carcasses were examined upon request from the owners. Six of these were totally condemned and voluntarily surrendered. The others were passed subject to the destruction of the affected portion. The disease in every case was tuberculosis. The prices ranged from £10 12s. 6d. to £18 10s. 0d. A quantity of fish, weighing 102 lbs., was also surrendered for destruction.

Common Lodging Houses.—There are 7 houses in the Borough now registered as common lodging houses. Every effort is made to see to these being kept in a sanitary condition, and the houses are fairly well conducted. Their defective structural character makes it difficult for the keepers to maintain them in a thoroughly satisfactory state.

Houses Let in Lodgings.—There are 4 houses on the register, which have been kept in a satisfactory condition. The model bye-laws relating to houses let in lodgings were adopted, and came into force in 1897.

Ice Cream Premises.—A constant supervision has been maintained over the premises where ice cream is made and sold. The premises were, with one exception, at all times found in a cleanly condition.

The Factory and Workshop Act, 1901, came in force on January 1st, 1902. By it all previous legislation on the subject is either repealed or consolidated, and it makes considerable alterations in the duties of District Councils (which include Councils of Municipal Boroughs) in regard to workshops and workplaces.

There are 66 factories and 197 workshops in the Borough. The latter include a great many places, such as dressmakers' establishments, where the business is a small one, and is carried on in a room of the dwelling house set apart for the purpose. It sometimes happens that in such small workshops the business is carried on somewhat intermittently, and changes of address are frequent. This makes it difficult to keep an absolutely correct register, but so far as possible all changes have been followed up.

The following table of workshops shows the number in each Ward, and the nature of the trades carried on:—

Crewe Municipal Borough.

Trade.	Central.	West.	North.	South.	Borough.
Bakers and Confectioners..	17	8	6	14	45
Dressmakers and Milliners	21	7	3	19	50
Tailors	9	1	2	2	14
Watchmakers & Jewellers..	4	1	...	1	6
Tinsmiths	4	...	...	1	5
Cabinet Makers & Joiners..	10	2	3	5	20
Bootmakers	10	7	7	14	38
Herb Beer Manufacturers and Bottlers	1	1	...	...	2
Saddlers	2	1	...	1	4
Cycle Repairers	1	1	...	4	6
Ice Cream Manufacturers..	1	...	...	...	1
Wheelwrights ... ..	...	...	...	1	1
Shirtmakers	1	...	...	...	1
Hosiers	1	...	...	...	1
Stonemasons	2	...	1	1	4
Picture Framers	1	...	1	...	2
Rag Stores ... ..	...	...	1	1	2
Blacksmiths	3	1	1	3	8
Laundry ... ..	...	...	...	1	1
Artificial Teeth Manufac- turers	2	...	...	2	4
Scales Manufacturer ...	1	...	...	...	1
Gut Scraper ... ..	...	1	...	...	1
Totals	91	31	25	70	217

The condition of the workshops generally has been very satisfactory, although there were a few exceptions with regard to cleanliness. Thirteen notices relating to limewashing were sent out and complied with.

Three workshops contravening section 133 of the Factory Act by failing to have an abstract affixed in a prominent position were notified to the Factory Inspector.

In a large clothing factory some improvements in respect of the closet accommodation were made, and in one bakehouse a nuisance arising from black smoke from the furnace chimney was dealt with.

There are now no underground bakehouses in the Borough. The sanitary condition of all the premises was very satisfactory.

By an Order of the Home Secretary, dated November 14th, 1903, Section 3 (Sub-Section 1) of the Factory and Workshop Act, 1901, is modified.

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(1) As regards underground bakehouses by substituting "five hundred cubic feet of space to every person" for "two hundred and fifty cubic feet of space to every person"; and

(2) As regards bakehouses (other than such as are underground) where work is carried on at night by artificial light other than electric light, by substituting in respect of the period between 9 in the evening and 6 in the morning "four hundred cubic feet of space to every person" for "two hundred and fifty cubic feet of space to every person."

This Order came into force on the 1st day of January, 1904.

There were 508 inspections made, 16 defects were found, and 15 remedied. There were 19 written notices served.

The following list of Factories shows the nature of the manufacture carried on, and the number of the establishments belonging to each manufacturer in each ward :—

Industry.	Central.	West.	North.	South.	Borough.
Loco. Engine Works ...	...	1	...	*	1
Electric Lighting ...	2	...	...	1	3
Clothing Factories ...	1	1	4	2	8
Cabinet Maker and Joiner	4	...	...	...	4
Cycle Works ...	1	...	...	...	1
Bottling & Herb Beer					
Manufactory ...	2	...	...	2	4
Brewery ...	1	...	...	...	1
Aerated Water Manu-					
factory ...	2	...	1	...	3
Letterpress Printing ...	3	1	1	1	6
Laundry ...	...	...	2	...	2
Sausage Maker ...	3	2	1	2	8
Machine Smith ..	1	...	...	...	1
Wheelwright, Woodturner	3		1	...	4
Builder ...	2	1	1	2	6
Blindmaker ..	1	...	...	...	1
Iron Founder ...	1	...	...	...	1
Baker ...	2	...	1	...	3
Bootmaker ...	2	1	...	...	3
Brickworks ...	...	1	3	...	4
Fustian Cutting ...	1	2		...	3
Cattle Medicine ...	...	...	...	1	1
Firewood ...	...	1	...	1	2
Saw Mill ...	1	1	...	...	2
Chaff Cutting ...	1	1	...	...	2
Totals ...	34	13	15	12	74

* These works are also partly in the South Ward.

Crewe Municipal Borough.

Sale of Food and Drugs Acts.—These Acts are administered by the County Authority.

During 1907 there were 103 samples purchased in Crewe, submitted for analysis, viz.:—32 butter, 1 camphorated oil, 3 coffee, 1 gin, 1 ground ginger, 52 milk, 6 pepper, 1 rum, and 6 whiskey; all the samples proved genuine.

Adoptive Acts.—The Infectious Disease (Prevention) Act, 1890, came into operation in Crewe on January 1st, 1891. The Public Health Acts Amendment Act, 1890, came into operation in Crewe on February 1st, 1891.

Scavenging.—In May, 1905, the scavenging department was re-organised. A separate foreman was appointed for day, and for night work. The results have been of the most satisfactory character. The foremen devote their whole time to the work, and have been able to so organise it that since the summer it has been carried on with one gang less both on day and night work. The work done during the year, and the cost of both team and manual labour is given in detail. The loads have been slightly increased in size, the result being that the total number of loads removed has been less since the change.

The loads removed month by month, in 1907, and the cost per load is shown below.

1907.	No. of Loads Removed.		Average Cost per Load.	
	Day Work.	Night Work.	Day.	Night.
			s. d.	s. d.
January ...	947	346	3 3 $\frac{3}{4}$	5 10 $\frac{1}{4}$
February ...	872	322	3 3 $\frac{1}{4}$	5 7 $\frac{1}{2}$
March ...	775	310	3 5 $\frac{3}{4}$	6 1 $\frac{1}{2}$
April ...	764	363	3 4 $\frac{1}{4}$	5 10 $\frac{1}{4}$
May ...	829	371	3 2 $\frac{3}{4}$	5 6 $\frac{3}{4}$
June ...	711	305	3 5	5 11 $\frac{3}{4}$
July ...	862	356	3 5 $\frac{1}{4}$	6 1 $\frac{3}{4}$
August ...	919	347	3 3	5 9
September ...	841	333	3 3 $\frac{1}{2}$	5 8 $\frac{1}{2}$
October ...	889	359	3 4	5 10 $\frac{3}{4}$
November ...	846	332	3 5	5 9 $\frac{1}{2}$
December ...	818	326	3 6 $\frac{1}{4}$	6 1
	10073	4070	3 6 $\frac{3}{4}$	5 10 $\frac{1}{2}$

Crewe Municipal Borough.

Water=supply.—Water is supplied to the town from the Artesian Wells at Whitmore, Staffordshire, by the L. & N. W. Railway Company. The quantity of water used in 1907 was 213,841,000 gallons. This quantity is equal to 12 2 gallons per head of the population per day.

The figures giving the quantity of water consumed are made up from the accounts of the L. & N. W. Railway Company, and represent the water paid for by the Corporation; they include $20\frac{1}{2}$ million gallons per annum, which is the approximate annual quantity used by the Company's houses.

The quality of the water for drinking purposes is excellent, although somewhat hard for domestic and laundry use. The supply has never failed, even after the most prolonged drought.

Sewage Disposal.—There has been no change in the method of sewage disposal in 1907, the bulk of the sewage being still treated on the Corporation farm by broad irrigation, while about one-fifth is treated by the double contact method.

The Corporation farm was laid down in 1872, at a capital expenditure of £47,000, and has an area of 260 acres, 20 of which being pasture land is used for irrigation. This whole area has a sub-soil of stiff clay. Willows and ryegrass grow upon the farm.

The sewage flows by gravitation to the lowest portion of the farm along two main outfall sewers; the Northern, capable of taking 14 million gallons in 24 hours, and the Southern with a like capacity as far as the Gas Works in Victoria Avenue, but beyond that point only equal to 10 million gallons in 24 hours. The sewage is pumped, untreated, and delivered by elevated and ground-level carriers, at whatever point is desired. The pumping is done by a beam engine which can lift 100,000 gallons per hour.

After passing over the land the effluents flow into two streams, the North Brook and the South Brook, each of which ultimately discharges into the River Weaver.

Owing to the facts that the sub-soil of the farm is stiff clay, that the population of the town is rapidly increasing, and that this method of treating the sewage has not proved satisfactory, it was decided a few years ago to dispose of the sewage from the Northern Outfall (about one-fifth of the total quantity) by the bacterial method. Work in connection with the preparation of the septic tank and bacterial beds, was carried out in 1901 and 1902, and the septic tank and all the five pairs of bacteria beds were in use in 1903, 1904, 1905, 1906, and 1907.

Crewe Municipal Borough.

Toward the end of the year a new circular continuous filter was constructed on the site of one of the secondary contact beds. The samples taken immediately after it had begun to work were naturally not satisfactory ; several months' working, however, produced an effluent well within the requirements of the County Council.

Back Passages out of Repair.—The condition of a number of back passages was reported during the year, and the attention of the Works Committee directed to them. In many streets such passages form the means of access to houses most commonly used, and in addition there is often a considerable amount of heavy traffic by coal carts, etc.

Considerable progress has been made in paving back passages during 1907, as the following list of those which have been completed shows :—

1. Between Walthall Street and Westminster Street.
2. Between Lewis Street and Wistaston Road.
3. East side of West Avenue.
4. East side of Ernest Street.
5. Between Brooklyn Street and Nelson Street.
6. South side of Stalbridge Road from Brooklyn Street to Nelson Street.
7. North side of Stalbridge Road behind Nos. 34 to 44.
8. South side of Hammond Street.
9. Between Westminster Street North and Derrington Avenue.

Dirty Houses.—Notices were issued for the cleansing and limewashing of 137 houses. In 38 instances a second notice had to be issued before the work was carried out.

Sewers and Sewer Ventilation.—New sewers were laid in the following streets :—

- Beech Grove.
- Walker Street.
- Derby Street (part of).
- New Streets off Ruskin Road.
- Cromwell Grove.

There were no sewer ventilating shafts erected during 1907.

Crewe Municipal Borough.

Meteorology.—The following Table shows the result of observations made by Mr. M. Morgan, Curator of the Queen's Park, Crewe :—

1907.	Total Rainfall in Inches.	Number of Rainy Days.	Mean Temperature.			
			Maxi- mum in Shade.	Mini- mum in Shade.	1 foot deep.	4 feet deep.
January	1.0	3	41	28	38	41
February	2.60	6	39	26	35	39
March	2.25	6	50	31	40	41
April	1.20	9	54	33	45	44
May	2.25	9	59	40	50	44
June	7.12	18	63	43	54	51
July	2.84	13	68	46	58	55
August	1.66	10	67	46	58	57
September... ..	0.60	6	69	44	57	56
October	3.15	15	57	38	51	54
November... ..	1.26	10	47	34	46	49
December	0.96	8	41	31	40	44
Total	27.16	113	...	...	...	...

As compared with 1906 there were 12.44 inches less of rainfall and 45 fewer rainy days. During the months of June and July, however, the rainfall was much heavier, the total for those two months being 9.96 inches, as compared with 3.52 inches in 1906.

DUKINFIELD

Municipal Borough.

Medical Officer of Health—DR. J. R. S. PARK.

Population at Census, 1901—18,929.

Estimated Population in middle of 1907—20,000.

Area in acres—1,405.

Birth-rate per 1,000 living—26.6.

Death-rate per 1,000 living—21.1.

Death-rate from seven principal Zymotic Diseases—3.1.

Deaths under one year to 1,000 births—221.

The Urban District of Dukinfield was incorporated in 1899. The Municipal Borough had a population of 18,929 at the Census of 1901, and the population of the same area was 17,385 at the Census in 1891. The increase in the population during the decennium, 1891-1901, was thus 1,544, that is 8.8 per cent. The estimate of the population made for the middle of 1907 is probably not excessive.

The Borough is divided into three Wards, the population of which at the Census in 1901 was as follows:—

West Ward	...	...	...	5,612
Central Ward	...	...	...	6,699
East Ward	...	...	...	6,618

Dukinfield is situated on the left bank of the River Tame, a tributary of the Mersey, and whilst many factories and workshops are at the level of the river, most of the houses are built on the hillside, and in the eastern portion of the town the elevation is considerable.

The central portion of the Borough is fairly congested, but other portions, and more particularly the eastern portion, consist of farm land and open spaces, so that Dukinfield, although essentially a manufacturing town, is in part distinctly rural, and finds employment for many small milk-farmers.

The sub-soil is in part a loamy clay, and in part sandstone, and underneath this are coal measures. Although at the present moment no coal pits are working, for many years coal mining was a very important industry in the District.

The chief occupations of the inhabitants are—cotton manufacture—both spinning and weaving—engineering, boiler making, electric works, soap works, dye works, and rope manufacture. None of these industries are specially

Dukinfield Municipal Borough.

injurious to the health of the workers, and as a rule they are a fairly healthy class of men and women.

The house accommodation is on the whole decidedly good. Much of the worst property has been demolished or remains unoccupied.

In July, 1907, the following was the number of inhabited and empty houses in the Borough:—

		Number of Houses		
		Inhabited	Empty	Total
Central Ward ..	...	1,638	26	1,664
East Ward ...	...	1,570	34	1,604
West Ward ...	...	1,305	16	1,321
Total ..		4,513	76	4,589

Taking the population as at the Census of 1901 to be 4.48 per occupied house, the result will be 20,000.

POPULATION.

	1901	1902	1903	1904	1905	1906	1907
Central Ward...	6699	6686	6953	6922	6970	7150	7150
East Ward ...	6618	6721	6845	6832	6885	7011	7013
West Ward ...	5612	5559	5640	5644	5595	5837	5837
Total...	18929	18966	19438	19398	19450	19998	20000

During 1907 the number of births registered was 532, and the number of deaths registered was 392. To the latter must be added the deaths of 31 residents which occurred outside the District in Public Institutions, making the total number of deaths belonging to the Borough 423. The birth-rate is about 0.6 below the average in the 10 years 1897-1906, and the death-rate is 2.7 above the average in the same 10 years.

The number of deaths in 1907 from the principal zymotic diseases, was 62, viz.:—41 measles, 5 scarlet fever, 7 whooping-cough, 1 enteric fever, and 8 diarrhoea. The zymotic death-rate was therefore 3.0 per 1,000 living.

Cases of Infectious Disease Notified.—During 1907 there were 217 cases of infectious disease notified, viz.:—19 membranous croup, 18 erysipelas, 169 scarlet fever, 10 enteric fever, and 1 puerperal fever. Of these, 1 case of membranous croup, 3 of scarlet fever, and 2 of enteric fever, were removed to hospital. The patient who suffered from diphtheria died.

Dukinfield Municipal Borough.

The Infectious Disease (Notification) Act was adopted in November, 1902. The notification of infectious disease is now compulsory.

The number of cases of infectious disease in 1906 was 152, and in 1905, 83.

1907			Typhoid.	Scarlet.	Small-pox.	Diphtheria.	Erysipelas.	Puerperal Fever	Croup.	Total.
January	...	...	1	12	0	0	3	0	0	16
February	...	...	0	10	0	1	1	0	0	12
March ..	...	...	0	3	0	0	1	0	0	4
April ...	...	...	0	10	0	2	2	1	0	15
May ...	...	..	1	8	0	1	1	0	0	11
June ...	...	...	2	7	0	0	3	0	0	12
July ...	...	...	0	30	0	2	1	0	0	33
August	...	...	1	17	0	2	1	0	0	21
September	...	...	0	10	0	4	2	0	0	16
October	...	...	1	15	0	2	1	0	0	19
November	...	...	1	21	0	2	0	0	0	24
December	...	...	3	26	0	3	2	0	0	34
Total ...			10	169	0	19	18	1	0	217

When an infectious disease is notified as occurring at any house, the Sanitary Inspector is instructed to act as follows:—

1.—To call as soon as possible at the house and get information as to

- (a) Age of patient.
- (b) Source of Infection.
- (c) Sanitary condition of house and surroundings.
- (d) Isolation (if any) at home or hospital.
- (e) Milk supply.
- (f) School attended.

2.—To communicate at once with the master of the School at which any member of the household attends.

Dukinfield Municipal Borough.

- 3.—To communicate also to the Librarian of the Free Library, so that no books may be lent out to the infectious house, and if any such books happen to be already in the house, they are to be destroyed, or disinfected before they are returned to the Library.
- 4.—At the request of the medical attendant, to fumigate the sick room with the fumes from burning sulphur or aldehyde.

Disinfectants in solution and in powder are provided free by the Sanitary Authority on all occasions.

The houses are disinfected, the sick room cleaned thoroughly, and in many cases the walls are whitewashed.

Vaccination.—The following statistics as to Vaccination have been supplied to the Medical Officer of Health by the Vaccination Officer. The return is submitted in the usual form, and relates to the vaccination record of 535 children whose births were registered in the Borough in 1907.

Successfully Vaccinated	...	..	...	338
Insusceptible of Vaccination	...	...	...	0
Died Unvaccinated...	...	...	..	64
Postponed by Medical Certificate	...	...	...	31
Certificate of "Conscientious objection to Vaccination" obtained	...	...	...	34
Removal from the District	...	...	...	11
Number of Births unaccounted for	...	...	...	57
Births Registered				535

It is interesting to note that 34 certificates were granted to conscientious objectors to vaccination. Of those born in 1907 there were 64 died unvaccinated.

Measles, which had been in epidemic form in both of the neighbouring towns of Ashton-under-Lyne and Stalybridge, towards the latter part of 1906, first showed itself in the East Ward of Dukinfield, in the month of December. There were very few cases, however, and only 1 death, until February, 1907. There were 10 deaths in February, 15 in March, 8 in April, and 3 in May, the last death certified being on the 12th of that month.

Dukinfield Municipal Borough.

It is a remarkable fact that in no case was there a death from measles in the homes of the well-to-do. Although a few deaths took place among the better-class working people, the majority of deaths was in the homes of the very poor, and in the worst class of property in the town; in all there were 36 deaths.

Measles is not a notifiable disease in Dukinfield, and comparing it with other infectious diseases it is at once apparent that preventive measures are less likely to be successful against it than against the others.

There is no doubt that this epidemic was widespread among the children of the working classes. This is probably due to the general disposition to regard the disease as trivial and almost natural to child life, and therefore not serious enough to require medical assistance. That this is a delusion we have only to compare the deaths in Dukinfield from measles during the past ten years, with, for example, those from scarlet fever. In that period, 185 deaths were due to measles and 57 to scarlet fever, or a proportion of more than three to one caused by the former.

Measles seems to spread slowly by infection from one part of a town to another, affecting the susceptible on its journey. Three Schools almost escaped, viz.:—St. Mary's, the Moravian, and Victoria. The Moravian School has few, if any, infants. Victoria has been affected by an epidemic of whooping-cough, which very frequently accompanies measles, but otherwise has almost escaped the prevailing epidemic; but why St. Mary's School, which was right in the midst of the measles infection, has escaped, it would be difficult to explain.

The first School affected was the Central Board School, which is in the northern part of the town, easy distance from the Borough of Ashton-under-Lyne, and in the Central Ward. Then, in quick succession, St. Mark's and Old Chapel Schools were affected. A fortnight later, the disease made its appearance at St. John's School, which is at the extreme east and Stalybridge end of the Borough. The Schools were closed early in April for the Easter Holidays, and the epidemic quickly came to an end so far as the Schools already affected were concerned, as after April 7th there were no further deaths notified in the districts then affected. In the meantime, however, the epidemic had spread to Globe Lane Schools, at Dukinfield Hall, the extreme western part of the town.

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Diphtheria and Membranous Croup caused 19 cases, but no deaths, compared with one in 1906, one in 1905, no deaths in 1904, one death in 1903, six in 1902, and four in 1901.

It is remarkable during the last four years how few have been the deaths from this fatal disease; only three deaths occurred out of 55 cases. The case mortality of previous years has been as high as 30 per cent. and upwards. This decrease in the proportion of deaths seems to be due to the fact that in every case now anti-diphtheretic serum is used very early in the illness, with excellent results; rather than to the fact that the attacks are less severe.

Scarlet Fever.—Although there have been as many as 169 cases of scarlet fever in the town, it is a remarkable fact that only five deaths have occurred, showing that the attacks generally have been of a mild character. No deaths took place in patients under one year, two were under five, and not attending School, and three between five and 15 years of age.

Scarlet fever is for the most part an epidemic disease which reaches its maximum in October, and its minimum as a rule about March, but in certain manufacturing towns in the north of England it is endemic.

The Medical Officer of Health remarks that there is no evidence of scarlet fever being conveyed by water, nor in Dukinfield is there evidence of its being conveyed by milk. He believes that the scarlet fever germ lives and thrives in Dukinfield, and is readily conveyed by infection. The germs which are conveyed by the bran-like scales given off from the skin, readily attach themselves to clothing, and may be thus retained for months. Thus isolation of the patient is not sufficient unless combined with thorough and careful destruction of the germs.

Whooping-cough accounts for seven deaths, compared with one in 1906, one in 1905, four in 1904, 12 in 1903, three in 1902, ten in 1901, 14 in 1900, and 19 in 1897.

Next to scarlet fever, whooping-cough is more fatal than any other disease in children, and in Dukinfield it is more fatal than scarlet fever. There is no doubt that in infants under one year it is the most fatal of all epidemic diseases. Concurrent epidemics of measles and whooping-cough are frequent. Whooping-cough is a typical epidemic

Dukinfield Municipal Borough.

disease, and recurs at short intervals of two or three years, in outbreaks that affect a large proportion of susceptible persons. Owing to the absence of rash and the insidious onset of the symptoms, this disease is rarely detected until many days after it has reached its infectious stage. Preventive measures are, therefore, not very successful.

Enteric Fever.—In 1907 there was 1 death out of 10 cases notified. These deaths compare favourably with 6 deaths in 1906, 5 in 1904, 3 deaths in 1903, 3 in 1902, 4 in 1901, and 3 in 1900.

Enteric fever is a typical “filth disease.” It is conveyed by polluted water, milk, and even oysters. Infecting material may be carried by flies, and in dust. Improved sanitary conditions have much lowered the death-rate from enteric fever, and the presence of this fever in any district points to insanitary conditions, or a faulty water-supply.

Diarrhœa.—Epidemic diarrhœa accounted for 7 deaths, compared with nine in 1906, seven in 1905, five in 1904, and seven in 1903. There was one death in the first quarter, none in the second, one in the third, and five in the fourth. Five deaths occurred in the Central Ward, one in the East Ward, and one in the West Ward. Three of those who died were under one year and four between one and five years. The death-rate from diarrhœa was 0.35, compared with 0.45 in 1906, 0.350 in 1905, 0.256 in 1904, 0.36 in 1903, 0.32 in 1902, 1.79 in 1901, and 0.47 in 1900.

Nineteen deaths were certified as due to Gastro-Enteritis or some form of Gastric Catarrh.

The Medical Officer of Health writes:—We have a great deal to learn as to the cause of epidemic diarrhœa; which has so much to do with the infantile mortality in our large towns. Among the many cases which affect diarrhœa are:—

- (1) Density of population.
- (2) Density of buildings.
- (3) Want of light and ventilation.
- (4) Want of cleanliness.
- (5) Foul air from sewers, &c.
- (6) Drinking Water.
- (7) Poverty.
- (8) Fermented food, including milk, and presence of flies.

Dukinfield Municipal Borough.

- (9) Maternal neglect.
- (10) Damp, loose or porous soil.
- (11) High temperature.
- (12) Dry seasons with much dust.
- (13) Micro-Organism in soil.
- (14) Locality, certain towns being particularly liable.

The total death-rate from the seven principal zymotic diseases was 2.95, compared with 1.43 in 1906, 1.43 in 1905, 2 in 1904, 1.68 in 1903, 1.89 in 1902, 2.78 in 1901, 3.41 in 1900, 2.52 in 1899, 4.5 in 1898, 4.45 in 1897.

Cancer.—Cancer accounted for 10 deaths, compared with 5 in 1906, 15 in 1905, 10 in 1904, 16 in 1903, 11 in 1902, 10 in 1901, and 10 in 1900.

This disease, generally affecting people over 30 years of age, has caused an increased number of deaths, of recent years, the explanation of which is not very satisfactory. Certain soils seem to favour production of disease, and some think that it is associated with a micro-organism.

Influenza.—There were three deaths from epidemic influenza, compared with six in 1906, four in 1905, one in 1904, two in 1903, one in 1902, three in 1901, four in 1900, nine in 1899, two in 1898, and one in 1897.

This disease attacks persons of all ages and both sexes, sometimes to the extent of quarter or half of the population. The mortality from influenza is usually slight, except among persons already weakened by disease, or pre-disposed to bronchitis or pneumonia, the increased death-rate during an epidemic of influenza being undoubtedly due to respiratory diseases. Very little is known as to how this disease is produced. It is undoubtedly highly infectious, and the pathogenic microbe, a short bacillus, has been identified. Notification, isolation, and disinfection are impracticable in cases of influenza.

The death-rate averages in this country 331 per million of population. In Herefordshire, in 1898, it was 1167 per million of population.

During periods of epidemic prevalence people should not congregate together, and public meetings should be avoided as much as possible. A regular life, plenty of open air exercise, short of fatigue, a proper number of hours in bed, and regular meals of good simple food are amongst the best prophylactics.

Dukinfield Municipal Borough.

Phthisis.—Pulmonary phthisis was responsible for 26 deaths, and 7 more were due to other forms of Tuberculosis, compared with 25 in 1906, 11 in 1905, 8 in 1904, 25 in 1903, 19 in 1902, 24 in 1901, and 23 in 1899.

This is undoubtedly an infectious disease. Owing to improved hygienic conditions the death-rate has considerably decreased in recent years.

DEATH-RATE.

1851-1860	...	...	2.7
1861-1870	..	...	2.5
1871-1880	...	...	2.1
1881-1885	...	...	1.8
1885-1890	..	...	1.6
Dukinfield, 1907	...	...	1.3

The tendency to Phthisis may be inherited, but whether heredity can do more than strongly predispose to the disease is less certain. It is remarkable how consumption clings not only to certain localities, but also to certain houses.

Infantile Mortality.—There were 118 deaths of children under one year, the average for the previous ten years being 114. The mortality per thousand births registered was 221, compared with 176 in 1906, 196 in 1905, 198 in 1904, 188 in 1903, 182 in 1902, and 275 in 1901; the average for the previous ten years being 213.

Since 1901, when the infantile mortality in Dukinfield reached its high-water mark of 275, there has been a considerable decline, but in 1907 it was well above the average for the previous ten years. The average for the years 1897 to 1901 (inclusive) was 239.

This matter has always been well thought out by the Committee. Special treatment in the way of feeding young children by means of sterilised modified milk has, in past years, been adopted in order to reduce the mortality. For each monthly meeting a special report is prepared, as the result of inquiries relative to the deaths of infants under twelve months. It is difficult to explain the high infantile mortality in these manufacturing districts, and no definite cause is shown as the result of the statistics.

The Infectious Disease (Prevention) Act, 1890.—This Act, with the exception of Sections 9, 10, and 12, was adopted during the year 1897.

Dukinfield Municipal Borough.

Isolation Hospital Provision.—Arrangements have been made with Hyde Hospital, to reserve 2 beds for small-pox, and 4 beds for other infectious diseases in the Hyde Borough Hospitals. There is no difficulty in obtaining admission for a larger number of patients, should occasion arise.

Steam Disinfecter, &c.—The Borough of Dukinfield use the disinfecting apparatus at the Hyde Hospital to disinfect bedding, clothing, etc., and the Disinfecting Baths provided at the Hospital, when required.

The Private Street Works Act, 1892.—This Act was adopted by the District Council in October, 1896.

Water Supply.—The Corporation of Dukinfield are joint owners with the Corporation of Ashton-under-Lyne, Stalybridge, and Mossley, of the District Waterworks. The water is gathered from the springs and streams in the Swineshaw Valley. It is pure and runs no risk of being polluted. The only fault is that the supply is not quite sufficiently abundant. The consumption of water during 1907 was as follows:—

Gross Supply	...	...	145,600,000 gallons.
For Trade Purposes	...	...	30,778,400 „
Net Supply	...	...	114,821,600 „

The gross supply for 1907 was equal to almost 20 gallons per head per day. This compares with 20.48 gallons per head for 1906, 19.14 gallons in 1905, 18.17 in 1904, and 20.22 in 1903. In the 8 years 1896 to 1903, the average gross daily supply was 18.5 gallons per head. The net supply in 1906 was 16.54 gallons per head per day.

Strict supervision has been exercised with respect to swilling and waste of water, with very satisfactory results.

This water is very soft, and when, in 1901, it had to be cut off at night during parts of the year, some cases of lead poisoning were observed.

Since 1902, handbills cautioning consumers against the waste of water, have been constantly circulated within the District, and this has certainly reduced the rate. Defective taps and service pipes to the number of 1,679 were attended to during 1907. The following extensions and alterations have been completed by the Corporation during the year:—156 extensions of 4ft. mains, and 78 yards of

Dukinfield Municipal Borough.

new 4in. mains have been laid, 18 new lead service pipes have been put in, 5 valves and 3 hydrants have been fixed on mains, and 15 meters have been repaired.

The water reservoirs are stocked with trout of a good size and quality, from Stamford Park.

Rainfall.—The rainfall for the year 1907, as recorded by the Rainfall Gauge at the Higher Reservoirs, was 32.97 inches. The rainfall for the year 1906 was 30.85 inches. In 1905 the rainfall was 23.19 inches. In 1904 the rainfall was 27.63 inches. In 1903 the rainfall was 35.20 inches.

Smoke Nuisances.—Periodical observations and reports are made as to the amount of smoke issuing from the chimneys of factories, etc. Owing to representations made by the Authority some improvements have been effected.

Disposal of Excreta and Refuse.—The sanitary accommodation provided for houses in this District is of four kinds—ash-pit privies, pails, automatic flush closets, and ordinary water-closets. The privies and the pails are not satisfactory, nor are the automatic flush closets, and ordinary water-closets cannot be provided generally, owing to the insufficient water-supply. The Corporation are pressing owners to put in automatic flush-closets, though this apparatus is not approved of by many experts. The Medical Officer of Health is of opinion that such closets require to be well supervised, but that they are certainly better than ashpit privies or pails. There are about 800 of them in the Borough. The Inspector sees them monthly, and reports as to their condition. The Sanitary Committee do not allow new houses to have pails or ashpit privies.

The contents of the ashpit privies and the excreta from the pails are taken to the Corporation sewage-farm in the night-time.

Scavenging is regularly and systematically carried out. During 1900 a machine was purchased for the purpose. The street-sweepings are conveyed to Bradley Hurst, and all refuse from shops and ashpits is removed to the tip at the farm. The tip is an excellent one of its kind; being at a considerable distance from any property. However, providing a destructor would be the best way of getting rid of refuse.

Dukinfield Municipal Borough.

Destructors reported on favourably.—The Deputation which attended the Congress of the Royal Institute of Public Health in 1899, reported favourably on destructors, and particularly on Meldrum's Duplex Destructor, as working at Darwen Electric Supply Station.

Sewer Flushing.—The sewers are regularly flushed, especially in dry weather.

The nightsoil from the ashpits is tipped on the Sewage Farm during the night-time.

The Sewage-disposal Works at Bradley Hurst were completed and opened during 1900. All the sewage is conveyed by means of a high-level and low-level sewer to the Works, and is treated by precipitation with chemicals, and filtered. The effluent is passed through land before discharging into the river. The sewage farm at Bradley Hurst is 63 acres in extent.

Over 12,000 tons of sludge are drawn from the sewage annually. The sewers are ventilated at the manholes, and are regularly flushed, more especially in dry weather.

House drainage is also carefully attended to, and personal visits are paid to the houses to insure proper trapping of drains, etc.

The condition of the River Tame is considerably better as regards pollution, owing to the time and money spent upon the purification of sewage by the various localities on the banks. No untreated sewage now enters the river from any of these districts.

Factory and Workshop Act.—The Medical Officer of Health reports that during 1907 107 factories, workshops, bake-houses, etc., have been visited and reported upon. A register has been prepared and is kept up-to-date. Most of the premises are clean and in sanitary condition, and have been recently white-washed. The regulation as to air-space has in every case been complied with, while little or no complaint has been made as to insufficient ventilation. The bake-houses are all in order. On all but 2 premises closet accommodation was well attended to and sufficient; 2 have been supplied with extra closets. In the few instances where defects were pointed out they were immediately put right.

The Borough Surveyor reports that the provision of fire-escapes in the factories is satisfactory.

Dukinfield Municipal Borough.

Abatement of Nuisances.—The Inspector, Mr. J. Summerfield, gives attention to all nuisances complained of or discovered, and takes the usual steps to obtain their abatement. A list of the nuisances dealt with is given. There were 105 defective drains put in order and 60 offensive ash-pits put in order. There were also 118 nuisances from obstructed flush-closets promptly attended to.

Refuse Removal.—The Inspector supervises the scavenging. The number of loads of street sweepings was 1,611. The number of loads of dry ashpit refuse removed was 2,506. The number of loads of refuse from middens was 4,405. There were also 570 barrels of excreta removed from cesspools.

Dairies, Cowsheds, and Milkshops are periodically inspected. There are 21 in the District, and, as regards the majority, there is little or no cause for complaint. The new regulations came in force in July, 1900.

Slaughter-houses.—There are ten slaughter-houses in actual use, these are kept clean and sanitary, but some of them are deficient in air-space, and situated in objectionable places.

These Regulations necessitate in most cowsheds an increased air-space, and the Committee are making enquiries as to the condition of the cowsheds in the district. As a result of this, no doubt, considerable improvement will be effected during the coming year.

In some cases there is not sufficient air-space, and the lighting and ventilation of these buildings could be improved.

In nearly every case the dairies and utensils were scrupulously clean.

Some of the cowsheds, however, are in good condition, and highly creditable so far as cleanliness and tidiness, and there is a general desire on the part of the local farmers to comply with the requirements. As regards the milkshops every care will be taken in the future to see that all the requirements of the Regulations recently come into force are carried out.

No Offensive Trades are carried on in the town itself, but on the outskirts of the Borough are one or two small places used for tripe boiling purposes, and also for skin cleaning.

Dukinfield Municipal Borough.

Housing of the Working Classes.—The majority of the people in the town belong to the working class, and the house accommodation is on the whole decidedly good. During the year a number of good cottage houses have been built, fitted with modern sanitary arrangements and conveniences, and with plenty of air-space. Plans have been submitted during the year for 61 houses, as compared with 61 in 1906 and 24 in 1905. In every case the drains are thoroughly tested by the Surveyor, and strict supervision is taken by him as regards structure and air-space and fitness for habitation. No action has been taken under the "Housing of the Working Classes Act, 1900," there are no common lodging-houses in the district.

Back to back houses, and the worst class of property is kept under careful and periodical inspection, and improvements and alterations are being carried out.

Overcrowding is carefully watched, and the condition of the poor and neglected children, reported upon to the Inspector of the Prevention of Cruelty to Children Society.

Canal Boats.—A mile of the Peak Forest Canal runs through the Borough. The Inspector paid 3 visits to the Canal, and inspected 3 boats during 1907, all were in order.

Open Spaces and Playgrounds.—There are 12,383 square yards of land at the upper part of the market ground set apart by the District Council as a Recreation Ground. A Committee, appointed to negotiate for the purchase of land as a Public Park, completed their work in 1897, by purchasing 10 acres of land centrally and conveniently situated. In September, 1899, the first sod was cut and the first tree planted. The work of laying out this land was completed, and the little "park" was opened in 1902.

Cemetery.—The Local Authority are joint-owners with the Ashton-under-Lyne Corporation of a large cemetery, situated in Dukinfield, which is sufficient not only for present needs, but for the requirements of many years to come.

HYDE

Municipal Borough.

Medical Officer of Health—DR. J. BENNETT.

Population at Census, 1901—32,766.

Estimated Population in middle of 1907—34,165.

Area in acres—3,081.

Birth-rate per 1,000 living—21.9.

Death-rate per 1,000 living—16.2.

Death-rate from seven principal Zymotic Diseases—1.4.

Deaths under one year to 1,000 births—169.

The population of this Municipal Borough was 30,670 at the Census in 1891, and 32,766 at the Census in 1901. The increase in the population during the decennium, 1891-1901, was thus 2,066 ; that is, 6.8 per cent. By adding to the Census population the natural increase since the Census, an estimate of the population is made for the middle of the year 1906.

The population of the three Townships of Hyde, Godley, and Newton, was, at the date of the Census, as follows :—

Hyde	...	...	...	23,668
Godley	...	...	...	1,691
Newton	...	...	...	7,407

During 1907 the number of births registered was 748, and the number of deaths registered, including deaths of 24 residents which occurred outside the District, and excluding the deaths of 2 non-residents, was 556. The birth-rate is 3.8 below the average in the 10 years 1897-1906, and the death-rate is 1.2 below the average in the same 10 years.

The seven principal zymotic diseases account for 51 deaths, viz. : 17 measles, 9 scarlet fever, 11 whooping-cough, 5 diphtheria, 3 enteric fever, and 6 diarrhœa.

Illegitimate Births.—There were 17 illegitimate births; this is equal to 2.27 of the total births.

Infant Mortality.—The number of infants who died in their first year was 127, being equal to 169 per 1000 births. The infantile mortality rate for the 10 years 1897-1906 was equal to 199 per 1000 births. The infantile mortality for every year since 1892 is given in the Medical Officer's Report, and the rate in 1907 is very considerably lower than in any previous year.

Hyde Municipal Borough.

The following tabular statement shows the cause of death in infants under a year old in 1907, as compared with 1902-3-4-5-6 :—

Cause of Death.	Year. 1907.	Year. 1906.	Year. 1905.	Year. 1904.	Year. 1903.	Year. 1902.
Smallpox ...	0	0	0	0	1	0
Measles ...	4	0	6	1	2	14
Diarrhœa ...	3	19	8	20	4	9
Whooping Cough ...	5	4	5	3	8	5
Erysipelas ...	0	0	0	0	0	1
Pneumonia ...	13	13	9	5	8	16
Bronchitis ...	11	8	9	8	13	6
Tubercular Diseases	6	3	2	11	4	7
Marasmus ...	22	25	53	43	28	34
Convulsions...	27	16	17	22	26	31
Enteritis ...	1	0	1	4	2	1
Premature Birth ...	16	14	13	18	26	22
Diphtheria ...	0	1	2	1	0	0
Venereal Diseases ...	0	1	2	2	0	0
Other Causes ...	19	16	18	23	26	14

Cases of Infectious Disease notified.—During 1907 there were 362 cases of infectious disease notified, viz.: 13 diphtheria, 41 erysipelas, 275 scarlet fever, 24 enteric fever, 2 puerperal fever, and 7 phthisis. Of these 258 cases of scarlet fever, and 9 of enteric fever were removed to hospital.

The following table shows the number of each notifiable infectious disease (not including phthisis) received during each month of the year 1907 :—

Disease.	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total 1907.
Scarlet Fever ...	10	14	5	20	9	6	23	15	34	50	44	45	275
Enteric Fever ...	1	...	3	2	2	2	2	2	4	...	5	1	24
Diphtheria&Mem- branous Croup	2	2	...	1	5	...	...	...	3	1	...	2	13
Erysipelas ...	6	3	1	1	5	3	4	...	7	5	3	3	41
Puerperal Fever	...	...	...	...	..	...	...	1	...	...	...	1	2
Small-pox ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total...	19	19	9	24	18	11	29	18	48	56	52	52	355

Hyde Municipal Borough.

The next Table shows the number of cases of each notifiable infectious disease, in each of the three Townships within the Borough :—

Disease.	Hyde.	Newton.	Godley.
Scarlet Fever	172	82	23
Enteric Fever.....	19	4	1
Diphtheria and Mem- branous Croup	7	5	1
Puerperal Fever	2	0	0
Erysipelas	37	4	0

Case-mortality of notifiable Infectious Diseases.—

The case-mortality of each of the notifiable infectious diseases during 1907, and in the four immediately preceding years, is shown in the following tabular statement :—

Disease.	No. Notified	Deaths	Mortality per cent., 1907	Mortality per cent., 1906	Mortality per cent., 1905	Mortality per cent., 1904	Mortality per cent., 1903
Smallpox .....	...	...	...	...	...	4.3	19.1
Scarlet Fever	275	9	3.2	2.9	5.3	...	1.4
Enteric Fever	24	3	12.4	22.2	22.2	21.5	11.6
Erysipelas	41	1	2.4	1.7	1.9	2.2	2.3
Diphtheria.....	13	5	38.4	29.1	45.8	38.2	...
Puerperal Fever	2	2	100	...	75.0	66.6	100

METHOD OF DEALING WITH INFECTIOUS CASES.—On the receipt of a notification the house is immediately visited by the Sanitary Inspector. Inquiries are made as to the origin of infection, the sanitary condition of the premises, and the means available for isolation at home. When home isolation is impossible or undesirable the case is removed to the hospital, and the house and contents immediately disinfected. When isolation is carried out at home the house is disinfected as soon as the medical attendant certifies that the patient is free from infection. School children from infected houses are not allowed to attend school until after the lapse of the incubation period, when removal to hospital has taken place, or until after the recovery of the patient when isolation has been carried out at home.

Hyde Municipal Borough.

The Librarian of the Free Library is notified daily of all infected houses.

The following form is used for inquiry into all cases of infectious disease :—

BOROUGH OF HYDE.

SANITARY DEPARTMENT.

(Form of Inquiry relating to Infectious Diseases).

Disease ..	Date.....	190	
Occupier's Name			
Occupier's Address			
Owner's Name			
Owner's Address			
Patient's Name	Age.....		
Patient's School ..	Last there		
Patient's Workplace	Last there		
Date of outset of Symptoms			
Other	} Ages		
Members		} Schools	
of Family		} Workplaces	
Removed to Hospital			
House Disinfected			
Doctor's Name			
Date of Doctor's first visit			
Any Inmates of House gone away	Where		
Business carried on, or work done at home			
Nursed by	Other duties of Nurse		
Milkman's Name.....	Address.....		
Rooms occupied by Patient.....	Condition of.....		
No. of rooms in house. Upstairs	Downstairs		
Other sources of infection, <i>i.e.</i> , visitors, shellfish, visiting, ice cream, etc.			
DRAINAGE.	Cellar	Sink	
	Bath, etc.....	W.C.....	
	Yard Drains.....	Rain water	
	Ventilation of House Drains		
	Main Sewer. Situation.....	Ventilation	
PRIVY.	Kind.....	Distance from House	
	Last emptied	Condition	
	Ashpit		
NUISANCES.	State of Back Yard.....		
	State of Passages.....		
	Accumulations		
	Animals kept		
Books from Library			
Remarks			

Hyde Municipal Borough.

Diphtheria and Membranous Croup.—There were five deaths from this cause during the year, giving a death-rate of 0.14 per 1,000 of the population. No cases were isolated in hospital. Antitoxin has been supplied free of cost by the Corporation, for use in the Borough.

Scarlet Fever.—Nine deaths were registered from scarlet fever during the year. This disease was most prevalent during the last four months of the year, over two-thirds of the total cases for the year occurring during those months. Of the 275 cases reported, 258 or 94 per cent. were removed to hospital.

Measles.—Seventeen deaths were registered from measles, giving a death-rate from this cause of 0.49 per 1,000 of the population. Four occurred in Hyde, eleven in Newton, and two in Godley. An extensive epidemic prevailed during the first six months of the year, Newton and Godley suffering more severely than Hyde.

Whooping-cough.—Eleven deaths were registered from this disease, equal to a death-rate of .32 per 1,000 of the population, compared with nine deaths and a death-rate of .26 in 1906.

Diarrhœa.—The number of deaths from diarrhœa was six, giving a death-rate of 0.17 per 1,000 of the population from this cause. Three of these deaths occurred in children under one year of age, two between the ages of one and five, and one between the ages of five and fifteen. No deaths from diarrhœa were registered in Newton or Godley. Compared with 1906 there is a decrease of twenty-one in the number of deaths from this disease.

Enteric Fever.—Three deaths resulted from enteric fever during the year, giving a death-rate from this cause of 0.8 per 1,000 of the population. No cases were traced to contaminated water or milk supply. Of twenty-four cases reported, nine were treated in hospital. Pails with air-tight covers, for the reception and removal of typhoid excreta, are supplied to houses which are not on the water carriage system. Disinfectants are supplied, free of charge, to every case.

Phthisis and other Tuberculous Diseases.—During 1907 there were thirty-nine deaths from phthisis and eighteen from other forms of tubercular disease. The phthisis death-rate is equal to 1.14, and that from other forms of tubercular disease is 0.52 per 1,000 of the population. Only seven cases have been

voluntarily notified. In each case the house has been visited, and a copy of the leaflet printed below given to the occupier.

INSTRUCTIONS TO PERSONS SUFFERING FROM CONSUMPTION.

Consumption is an Infectious Disease which is communicated in the following way :—

The infection is contained in the spit, or expectoration, of a patient suffering from the disease. The expectoration is deposited on floors, walls, clothes, handkerchiefs, etc., where it dries and gets mixed with dust, and is blown about in the air. This infected dust is inhaled by healthy persons, and produces Consumption in their lungs.

The following precautions should therefore be taken by persons suffering from Consumption, to prevent the infection of others.

They should not spit on the floor or walls of any living room, workshop, railway carriage, or in any place where people assemble. At home they should spit in a piece of paper or rag, and immediately throw this into the fire. A cup containing water may be used, which should be frequently emptied into the drains outside the house, and before being used again the cup should be thoroughly cleansed with boiling water.

When away from home a pocket spittoon, with a tight fitting cover, should be used, or the expectoration deposited in pieces of tissue paper rolled up and burned before the spit becomes dry.

All eating utensils should be thoroughly washed in boiling water before being used by another person.

Persons suffering from Consumption should not kiss on the lips.

Consumptive persons should be kept thoroughly clean, and as much fresh air and light admitted to them as possible.

Clothes soiled with expectoration should be washed and boiled.

As soon as it becomes known that a person is suffering from Consumption, the rooms occupied by the patient should be thoroughly disinfected. This will be done free

Hyde Municipal Borough.

of cost, or, if the householder desires to do the work himself, directions will be given. When once the rooms have been thoroughly disinfected and cleaned, it is easy to keep them so by washing the floors frequently with soap and water, and dusting them every day with a wet duster, so as to prevent infectious dust being scattered about the room.

The walls of a room occupied by a consumptive patient should be rubbed down with dough every three months.

A consumptive patient and his clothes should be kept scrupulously clean.

The commonest conditions which render persons liable to contract Consumption are overcrowding, damp rooms, want of fresh air and ventilation, and want of light, therefore all these conditions should be avoided as far as possible.

A consumptive person leaving a house should notify the fact to the Medical Officer of Health, so that it may be disinfected before being occupied by another tenant.

J. BENNETT,

Medical Officer of Health.

Bronchitis and Pneumonia.—Ninety-seven deaths were attributable to acute diseases of the lungs, viz.:—55 to bronchitis and 42 to pneumonia. In 1906 the deaths from these diseases numbered 90; in 1905 there were 94. The death-rate from this cause is equal to 2.8 per 1,000. Twenty-four of these deaths took place in children under one year of age, and twenty-five were over 65 years old. Children and old people whose vitality is low, either from insufficient or unsuitable food, or from insanitary or over-crowded dwellings, suffer severely from these diseases.

Coroners' Inquests.—Forty-four deaths formed the subject of investigation by the Coroner, making 7.9 per cent. of the total deaths.

The following verdicts were returned:—

Verdict	No.
Accidents... ..	7
Convulsions... ..	8
Heart Disease... ..	9
Suicide... ..	5

Hyde Municipal Borough.

Verdict.	No.
Drowning.....	3
Inanition.....	2
Senile Decay.....	2
Bronchitis.....	2
Croup.....	2
Concussion of Brain.....	1
Inflammation of Lungs.....	1
Premature Birth.....	1
Overlaying.....	1
Natural Causes.....	1

Isolation Hospital.—Two hundred and sixty-seven cases of infectious diseases, belonging to the Borough, have been treated in the hospital during the year. Two hundred and fifty-eight of these were scarlet fever and nine enteric fever. Nine cases of scarlet fever and three of enteric died.

The following table shows the number of cases of each disease treated in the hospital, the number of deaths, and the percentage of mortality for each disease compared with the four previous years :—

Disease.	No. of Cases.	No. of Deaths.	Mortality per cent.	Mortality per cent.	Mortality per cent.	Mortality per cent.	Mortality per cent.
			1907.	1906.	1905.	1904.	1903.
Scarlet Fever	258	9	3·4	2·5	3·8	0	1·7
Enteric Fever	9	3	33·3	22·2	45·4	0	33·3
Small-pox	0	0	0	0	0	4·3	9·1
Diphtheria	0	0	0	0	0	0	0

Cases received in Hospital from Outside Districts :—

District.	Scarlet Fever.	Diphtheria.	Enteric Fever.
Bredbury and Romiley	9	1	0
Dukinfield	4	1	1
Compstall	8	0	0
Marple	10	0	0
Hazel Grove	5	0	0
Denton	7	2	0
Droylsden	3	2	0
Audenshaw	0	0	1

Two cases of diphtheria from outside districts died in hospital during the year. One case belonged to Dukinfield and one to Denton.

Hyde Municipal Borough.

Hospital for Small-pox.—Provision is made for the accommodation of cases of small-pox in the old Isolation Hospital.

Hyde Corporation Act, 1903.—Under this Act many additional useful powers have been gained in connection with infectious diseases and sanitation. This Act also contains “milk clauses,” giving powers to check the sale of tuberculous milk within the Borough. These clauses are practically the model clauses of the Local Government Board.

Water Supply.—The domestic water-supply is obtained from the reservoirs of the Manchester Corporation, situated at Woodhead. It is abundant, and of good quality.

Four hundred houses in the higher parts of Newton are supplied by wells, and from a private reservoir belonging to Messrs. J. and J. Ashton. Although no water borne disease has ever been traced to this supply, numerous complaints have been received in recent years. The Corporation have prepared plans for the building of two new reservoirs on the highest part of Werneth Low, which will enable all parts of the Borough to receive Woodhead water for domestic purposes.

The supply for trade purposes is obtained from the reservoirs of the Corporation, situated at Gee Cross.

Dairies, Cowsheds and Milkshops.—Regulations under the Dairies, Cowsheds and Milkshops Orders have been in force since October 2nd, 1899. There are 54 persons registered as Cowkeepers in the Borough. In addition to the ordinary inspections, the whole of these are annually visited by the members of the Sanitary Committee. Many improvements recommended after last year’s visit were found to be carried out, especially in the increase of air space provided for the cattle and in ventilation.

Slaughter Houses.—There are 29 registered slaughter houses, all of which have been frequently visited and inspected.

No unsound meat was discovered exposed for sale during the year. Five carcasses of beef were voluntarily reported to the Inspector, and on inspection were found to be extensively affected by tuberculosis. These were all condemned and destroyed, the total weight being 1 ton 10 cwts. 2 qrs. 16 lbs.

Offensive Trades.—There are two offensive trades carried on in the Borough, viz.: tripe boiler and soap boiler. Four

Hyde Municipal Borough.

establishments carry on the former, and one the latter trade. They have all been regularly visited during the year, and found to be clean and kept according to the bye-laws. No complaints were received during the year as to nuisances arising from any of them.

Common Lodging Houses.—There are now three common lodging houses, which provide accommodation for 85 lodgers. The structural arrangements of the common lodging houses are very imperfect, they are difficult to keep clean, and badly ventilated.

The Chief Industries are cotton manufacture, engineering, boiler-making, calico printing, hat manufacturing, margarine making, leather dressing, printing, and the manufacture of india rubber goods.

The Public Health Acts Amendment Act has been in force since April 14th, 1891.

Insanitary Property.—The following list of insanitary property, most of which has been mentioned in previous reports, requires dealing with—

Nos. 26 and 28, Catherine Street, and Nos. 1 and 2, Washington Court. Four back-to-back houses.

Nos. 2, 3, 4 and 5, Perrin Court, Oldham Street. Single houses without through ventilation.

Nos. 52 and 54, Grafton Street, and Nos. 1 and 2, North Court. Four back-to-back houses.

No. 6, King Street, and No. 1, King Court. Two back-to-back houses.

Nos. 59 and 61, Old Road, and two houses in Firth's Court. Four back-to-back houses.

No. 5, Norfolk Street, and house behind in Rayner Court. Two back-to-back houses.

No. 57, Commercial Brow, and house in Water Street, Newton. Two back-to-back houses.

No. 32, Ridling Lane, and house at rear. Two back-to-back houses.

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No. 32, Brook Street, and house behind. Two back-to-back houses.

No. 25, Cheapside, and house behind. Two back-to-back houses.

Nos. 33 and 35, John Street. Two single houses.

Two cellar dwellings in Acorn Lane.

The following improvements to property, most of which have been recommended in previous reports, have been carried out during the year.

No. 18, Commercial Street and the house behind. Two back-to-back houses have been converted to one house with through ventilation and improved drainage.

No. 33, Victoria Street, and house behind in Meadowcroft Court. Two back-to-back houses have been made one.

No. 9, Grafton Street, and 1, Pitt Street have been converted to one house.

No. 23, Commercial Brow, and house in Andrew Square. Back-to-back houses have been converted to one house.

No. 19, Ridling Lane, and house behind. Two back-to-back houses have been made one.

No. 5, Church Street, and house behind in Booth Court. Back-to-back houses have been converted.

No. 86, Victoria Street, and house in Hague Court have been converted to one house.

No. 6, Townend Street, and house behind, back-to-back houses, have been made into one house.

Factory and Workshop Act.—This Act has been enforced in 1907. There were 13 inspections of factories (including factory laundries) and 234 inspections of workshops. In all 27 defects were found, and all were remedied before the close of the year. The out-working also received full attention. There were 92 inspections of out-working factories.

Hyde Municipal Borough.

Nuisance Abatement.—The Chief Sanitary Inspector, Mr. J. Shawcroft, attends to the abatement of all nuisances complained of or discovered. During the year there were 48 nuisances abated, after notices served.

Ashpit=privies converted.—During 1907 there were 116 ashpit-privies converted into water-closets.

Refuse Removal.—The Sanitary Committee undertake the removal of the refuse from privies and ashpits with their own staff of men, horses and carts. The work has been thus carried out much more efficiently than when it was done by contractors or owners. Much of the refuse of the town is taken to the destructor, and there burnt; tips are made use of for the dry and inoffensive refuse. The Chief Sanitary Inspector, Mr. J. Shawcroft, has charge of the work. During 1907 there were 6,496 ashpit emptyings and 22,832 emptyings of ashbins and boxes. There were in all 9,164 loads of refuse taken to the destructor or to tips during the year.

Ashpits being replaced by Ashbins.—The Medical Officer of Health having pointed out that many of the ashpits were large and uncovered and consequently liable to become wet and foul, recommended that ashbins (with tight-fitting lids) be substituted for such ashpits. This advice has been taken in a large number of cases, and there are now a great many of such ashbins in use. The number is increasing every year.

MACCLESFIELD**Municipal Borough.**

Medical Officer of Health—DR. J. H. MARSH.

Population at Census, 1901—34,624.

Estimated Population in middle of 1907—34,624.

Area in acres—3,214.

Birth-rate per 1,000 living—20.3.

Death-rate per 1,000 living—17.0.

Death-rate from seven principal Zymotic Diseases—0.7.

Deaths under one year to 1,000 births—120.

The population of this Municipal Borough was 36,009 at the Census in 1891, and 34,624 at the Census in 1901. The decrease in the population during the decennium 1891-1901 was thus 1,385—that is 3.84 per cent. It is assumed that the population has remained the same as at the Census of 1901. However, the Medical Officer of Health is of opinion that some of the factors which cause a decline in the population are still in operation. The factors referred to are (1) Excess of emigration over immigration, and (2) The low birth-rate. At best the population is stationary, yet there is evidence that it is declining.

Soil and Elevation.—The soil of the Borough is variable. To the west and north-west sand and gravel lying on boulder-clay alternate, the sand predominating. In the centre of the town are several feet (2 to 5) of coarse gravel on clay. On the east side there is brick-clay on sand and gravel, and to the south boulder-clay. The substratum is new red sandstone. The elevation of the town varies between 400 and 500 feet above sea level.

Births and Deaths.—In 1907 the number of births registered was 704, this is equal to a birth-rate of only 20.8, the lowest birth-rate on record since 1874. The number of females in Macclesfield is considerably in excess of the number of males, which to some extent accounts for the low birth-rate. In 1907, the number of deaths registered (excluding the deaths of persons not belonging to the Borough, of whom 17 died in the Workhouse, 4 in the Infirmary, and 75 at Park-side Asylum, and including 3 deaths of inhabitants which occurred elsewhere) was 583. This number is equal to a death-rate of 16.8 per 1,000, one of the lowest on record, but still 1.8 above the death-rate in England and Wales for 1908.

Illegitimate Infants.—The percentage of illegitimate infants to the number of infants born in 1907 was 6.2. In 1906 the percentage was 7.2.

Macclesfield Municipal Borough.

Infantile Mortality.—Of the whole number of deaths belonging to the Borough, 85 were of infants who had not completed their first year, being equal to 120 per 1,000 births. Of the 85 deaths 4 were due to whooping-cough, 4 were due to diarrhœa and enteritis, 14 were due to bronchitis, pneumonia and other diseases of the respiratory organs, 24 were due to premature birth, 14 to convulsions, 7 to venereal disease, 4 to marasmus, 1 to heart disease, and 4 to tubercular disease.

An analysis of the ages and causes of deaths, under one year of age in Macclesfield, is strikingly suggestive. Of the 85 deaths under one year, 51 occurred during the first month. Of these 51 no less than 22 were ascribed to premature birth. This is greatly in excess of any normal figure.

The Medical Officer of Health points out that, of the Municipal Boroughs, Macclesfield has the highest rate of deaths from premature birth, viz.:—3.4 per cent. He says “Macclesfield has the largest proportion of married and widowed women in occupation. I am not inferring that female labour is responsible for all the premature births. I think it cannot be doubted but that it must be held responsible for a large share, where the prospective mother continues at work to within a few days of the child’s birth.

Again, it is idle to deny that the use of abortifacient drugs is to some extent responsible, though the precise share taken by this factor is very difficult to estimate. Where the desired purpose is not effected, and pregnancy continues, till a viable child is born, the previous treatment adopted re-acts most seriously on the infant, and produces a feeble creature, scarcely able to contend against the slightest adverse influence.

If any real good is to be done in checking this loss of child-life, we must recognise these facts and take steps to combat them.”

The association of disease of the digestive organs and respiratory organs in young children is very close. Many of the children who survive diseases associated with the digestive organs are more or less weakly, and peculiarly liable to succumb to lung disease with the onset of the colder weather. Again, measles and whooping-cough are prone to follow, or are associated with bronchitis and bronchial pneumonia, particularly in the squalid, overcrowded, neglected dwellings of the poorest class.

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Infant mortality is closely connected with infant feeding. The Medical Officer of Health points out, as a fact full of instruction, that when during the suffering and starvation of the siege of Paris, the general mortality of the population was doubled, that of the infants was reduced by 40 per cent., simply from the mothers being compelled by circumstances to suckle their babies, and the same increase in the adult, and reduction of the infant mortality, was observed during the Lancashire cotton famine, when mothers were no longer at work in the mills.

An opinion is expressed that the Education Authority might do more to teach the older school girls how to feed and manage a baby. Practical demonstrations might be given in the advanced classes in day schools and evening continuation schools. In Macclesfield much good is done by the Ladies' Public Health Society, which is supported by voluntary contributions, and has taken in hand the question of reducing the death-rate amongst infants in this town. A number of ladies have undertaken to visit and advise mothers on the care of their children.

The Medical Officer of Health protests against the continued use of the term "convulsions" which "is misleading and means practically nothing." It may satisfy a Coroner's Jury, but it should find no place on a medical certificate of the cause of death. Convulsions in young children may be due to epilepsy, meningitis, dentition, rickets, scarlet fever, measles, pneumonia, worms, strychnine poisoning, improper feeding, etc.

The Notification of Births Act, 1907, which has been adopted in this Borough and is now in force, does much good in giving the Ladies' Public Health Society early information of a new arrival, a claimant for its care. It would be well if educational influences of the best and truest kind could be brought to bear on women at a time when so much can be done for the stamina of the future child, in those pre-natal days, when its future weal or woe is largely and irrevocably decided.

The Ladies' Public Health Society recognise these facts, and are making a modest and praiseworthy effort in this direction, as is evidenced by the following handbill which is publicly distributed.

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LADIES' PUBLIC HEALTH SOCIETY, MACCLESFIELD.

 PENNY DINNERS FOR NURSING MOTHERS.

Any mother can now have a nourishing dinner for 1d. at 7, Bank Street, under the following conditions:—

1. During the months immediately preceding a birth.
2. During the nine months after a birth if the infant is breast-fed.
3. Under special circumstances when the infant is bottle-fed.

Infants in arms may be brought, older children can be left at the Play School, close by.

Any advice concerning mother or child, will gladly be given.

HOURS FOR DINNERS.

12-30 p.m.	...	...	For those who work in a mill.
2 p.m.	...	...	For others.

The establishment of Provident Maternity Clubs in which prospective mothers might deposit weekly sums of money in anticipation of the extra food, absence from work, special attendance, &c., requisite before, during and after confinement. Such Clubs might be made centres of instructive talks on motherhood, and its responsibilities, and encourage habits of temperance, thrift, and gradually and almost imperceptibly instil a desire for better food and a higher standard of living, for the mother and prospective child. Employers of female labour might be asked to assist in this work. Still, when all is said and done, the broad fact remains that a married woman's proper place is her home, and this is especially true when pregnancy supervenes. The mill, factory, workshop, &c., is no fit place for a pregnant woman, and social economists must sooner or later recognise this fact, and means will have to be devised so that married women may occupy their proper sphere. The Ladies' Public Health Society is making such efforts in visiting the homes and advising the mothers as to the proper course to be adopted with the baby and for her own comfort and health.

The figures supplied on the work done by this Society in 1907, are as follows:—

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No. of Births in 1907	704
No. of Children visited by one or other of the Society's				
Visitors	...	...	...	614
No. died during 1907	...	...	...	27
No. left town 1907	...	...	...	17

This is, I think, a very striking commentary on the value of the work.

The Borough has an Infantile Mortality rate of 120 per 1,000 born. Of the 614 children under the Society's care, only 29 died, which is equal to an Infantile Mortality rate of only 47 per 1,000. However, until recently, the Society did not get hold of the children until they were six weeks old, and consequently many of the feeble ones never lived to come under its care at all.

The deaths during the first month of life are those particularly calling for consideration and amelioration on the lines suggested.

Zymotic Mortality.—The number of deaths in 1907 from the seven chief zymotic diseases was 28, viz.:—14 whooping-cough, 3 scarlet fever, 4 diphtheria, 3 fever, and 4 diarrhoea. The death-rate as regards the chief zymotic diseases was, therefore, 0.8 in 1907, which is an improvement on the record for 1906 (1.5), 1905 (1.6), and a great improvement on the record for 1904 (2.3). In the Borough of Macclesfield this death-rate steadily fell from 1874 to 1894. In 1874-8 this mean death-rate was 3.0, in 1879-83 this mean death-rate was 2.3, in 1884-8 the same death-rate was 1.9, and in 1889-94 the mean rate was 1.7. In 1895 this death-rate rose to 3.7. In the two following years it was 3.3. In 1898 this death-rate fell to 1.8. Thus after three years, during which the zymotic mortality was much in excess, it became moderate for a year. In 1899 this mortality increased again, being 2.7, and in 1900 it fell to 1.8. This death-rate fell again in 1901 to 1.6, and in 1902 it was 0.3, which is low beyond all precedent. In 1903 it was still low, being 0.8. Thus the rise in 1904 was quite remarkable.

Cases of Infectious Disease notified.—During 1907 there were 136 cases of infectious disease notified, viz.:—47 diphtheria and membranous croup, 66 scarlet fever, 11 enteric fever, 3 puerperal fever, and 9 erysipelas. During 1906 there were 458 cases notified, during 1905 177 cases

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notified, during 1904 224 cases notified, during 1903 282 cases notified, in 1902 185 cases notified, in 1901 104 cases notified, in 1900 156 cases notified, and in 1899 there were 364 cases notified.

In 1907 there were 24 cases of diphtheria, and 47 cases of scarlet fever removed to Hospital for isolation and treatment.

Measles.—No deaths from measles were registered during the year.

The new circular, of the Local Government Board, regarding the treatment *inter alia* of schools, threatened by measles, is noteworthy. Briefly it is suggested that the incubation period of measles is twelve days. Upon a child obviously suffering in school from measles, having been sent home, the remainder of the class should be permitted to attend school for nine days, and then excluded for four days, during which period all those incubating the disease will have definitely sickened, and the rest, having passed the incubation period, may be permitted to attend school.

The Medical Officer of Health suggests that the first case occurring in a household might with advantage be notified. Parents and school teachers should be expected to notify the first suspicious case noticed in the house or school. More careful home isolation is needed, and notification would assist the Authority in obtaining this. At present there is much reckless disregard of the simplest precautions needed to prevent the disease spreading. It is no unusual thing to see children freely mixing with others whilst the rash of measles is still out. Careful home isolation should be continued for three weeks or a month.

As regards closure of schools, the Medical Officer of Health is fully convinced, after six years' experience, that the view held by Dr. Niven, the Medical Officer of Health for Manchester, is correct, viz.:—"Unless the infant departments of schools are closed when the proportion of children suffering from measles reaches 10 per cent., the next best thing is not to close the schools at all."

Scarlet Fever.—Of the 66 cases notified in 1907 three proved fatal, 47 were removed to hospital, being 71.2 per cent. of cases notified. The mortality in 1907 was 4.8 per cent.

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The severity of scarlet fever is dependent, to no small extent, on the nutrition of the children attacked. Low mortality or no mortality is due to the milder character of the disease.

So far as Public Health work is concerned, it is important to note that scarlet fever is a disease capable of assuming a more malignant aspect than it now presents, and of causing a high mortality. It must be remembered that scarlet fever, like measles, is liable to leave formidable sequelæ of a permanent character. The most important of these, ear disease, may lead to deafness or fatal brain disease, and heart disease.

Scarlet fever is now a very mild disease, and some discrimination has to be used in selecting cases for admission into the Isolation Hospital, the cases selected being limited to those who cannot possibly be isolated at home, owing to special circumstances, including interference with the wage-earning or educational needs of the other members of the household. Indiscriminate isolation is not justifiable, and involves a useless waste of public money, which might more profitably have been used in combating other more fatal diseases.

It must not be forgotten that scarlet fever in the past has exhibited various degrees of virulence at different times, and consequently, although at present the type is mild, in a few years it may assume a severer form.

Untraced cases of scarlet fever have been shown to have a closer connection with defective closets than other common zymotic diseases, except perhaps enteric fever. It is probable that the urine of a scarlet fever patient contains this specific organism from a comparatively early period. It appears also that the micro-organism of scarlet fever has the property of multiplying in milk.

The improvements which have taken place in recent years in the disposal of excreta may possibly serve to explain in some measure the great reduction in the fatality of scarlet fever.

Diphtheria and Membranous Croup.—Taking these as one disease, there were 46 cases, of which 18 occurred among children attending school, and 10 in children below school age. The number of cases notified in 1907 was 47, and 4 proved fatal. The mortality in 1907 was 8.5.

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The Medical Officer of Health points out that the symptoms of this disease are caused by a specific poison (toxin), and that diphtheria antitoxin neutralises this poison, and prevents it from harming the vital structures, but it does not repair any harm which the toxin may have done. Thus, one of the most essential requirements in connection with diphtheria is the early injection of antitoxin, a supply of which is always kept at the Isolation Hospital.

No doubt a large number of cases notified are not true diphtheria, but cases of follicular tonsillitis, ordinary quinsey, or other forms of septic sore throat. Bacteriological examination should be made in all cases to verify the diagnosis. The Sanitary Authority recognise that it is their duty and privilege to provide for the bacteriological investigation of supposed diphtheria cases, free of charge to the doctor and patient, and outfits are accordingly supplied to be used for taking samples of morbid material, and transmitting them to the Laboratory of the Lister Institute of Preventive Medicine.

The term membranous croup should be omitted from the list of notifiable diseases, as probably all cases of membranous croup are really diphtheria, and should be known by that name. The Medical Officer of Health concludes by calling attention to the wisdom of administering antitoxin to those exposed to infection from diphtheria. In most cases 2,000 units would serve to render a person immune for a few weeks.

Erysipelas.—There were 9 cases notified in 1907, and one was fatal.

It is questionable whether much advantage results to the community from the notification of erysipelas. Many of the notified cases in the Borough are inflamed wounds, or cases of facial erysipelas. A few are cases of infected osteo-myelitis. Others are lymphangitis and adenitis, due to infection of minute wounds. Others again are cases of phlebitis. When such cases are notified there is little or nothing which the Medical Officer of Health can do except to attempt disinfection, which in the majority of these cases is quite unnecessary. The sole advantage of notifying erysipelas appears to be when there is a parturient woman or one approaching confinement in the house. In such a case the Medical Officer of Health may be able to prevent the spread of infection. However, there is in most towns no available accommodation for the isolation of a woman under such circumstances.

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Enteric Fever.—Of the 11 cases of this disease, notified in 1907, three proved fatal, all being nursed at home. There were seven from West Macclesfield, including two notified from the Asylum and one from the Infirmary.

The number of cases of enteric fever notified and the number fatal, since 1899, is as follows :—

Year.	Number Notified.	Number Died.	No. removed to Hospital.	Fatality per cent.
1899 ...	35	4	7	—
1900 ..	62	10	13	—
1901 ...	33	2	11	—
1902 ...	26	3	4	11
1903 ...	21	3	0	44
1904 ...	12	2	0	16
1905 ...	13	0	0	0
1906 ...	13	1	0	7
1907 ...	11	3	0	27
Total ...	226	28	35	12.4

It would seem as if there was some close connection between the gradual diminution in the number of cases of enteric and the clearing out of the privy-midden system which has slowly been going on during the last few years. The privy-middens, which numbered 3,942 in 1899, were 2,628 in 1907.

It seems probable that this disease is most frequently conveyed to those in personal contact with patients by means of polluted hands. The only way of preventing this is by the exercise of the most rigid cleanliness by nurses and all who minister to the sick.

On receiving notification of a case of enteric fever, a pail, and an abundant supply of disinfectants are sent to the house, with instructions that all excreta from the patient are to be put in the pail, which is frequently emptied and thoroughly cleansed. However, all these precautions are of little use if there is delay in notifying, and the midden gets infected. In such cases the midden is ordered to be carefully emptied, the walls and the floor scraped, and thoroughly saturated with chlorinated lime-wash. In some cases, when the midden is old and dilapidated, and resembles a huge cavern with many recesses, cleansing and disinfecting it adequately seems almost impossible.

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The one outstanding fact in most of these cases is the presence near the dwelling of an accumulation of putrifying human excreta contained in a pit called an ashpit. The ashpits (!) harbour and breed flies, to which may reasonably be assigned an important part in the spread of infection.

Bacteriological Diagnosis.—The Health Committee provide, free of cost, to all Medical Practitioners in the Borough, complete outfits for taking specimens of blood serum from persons suspected of having enteric fever, and swabs from the throats of persons suspected of having diphtheria. Practitioners are thus enabled to abridge as far as possible the period of doubtful diagnosis. Of course, specimens from throats should be taken before an antiseptic preparation has been applied.

Ten specimens from suspected cases of enteric fever were sent to the Lister Institute in 1907. In 4 positive reaction was obtained, and in 6 no reaction was obtained.

The Institute now examine the blood against para-typhoid organisms of two strains. It thus renders the value of this test to the general practitioner much greater, as he has a means of diagnosing with certainty typhoid fever from para-typhoid, with which it has doubtless been confounded in the past. Many of the milder cases of supposed typhoid fever are really infection with the para-typhoid group of bacilli.

Macclesfield Borough has been singularly free from enteric fever during the year. There is, however, still need of increased filtering accommodation. In the hot weather, the present filter beds are strained to their utmost, and any tendency to increase the rapidity of filtration, by too frequent scraping of the surface of the filter beds, is to be strongly deprecated, as by so doing the upper two or three inches of filtering material, which is produced by the growth of low forms of vegetable life in the sand, is removed, and it takes several days before it is renewed. During this interval, there is great danger of insufficiently purified water being delivered to the town, with consequent risk of life and health.

Influenza.—Under this heading are included deaths due to true epidemic influenza, as distinguished from deaths due to ordinary influenza, cold, or catarrhal fever. The number recorded in 1907 was 3, but probably this figure does not represent all the deaths for which influenza is responsible, many such deaths in aged persons being assigned to pneumonia, heart disease, etc.

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To prevent the spread of this disease, which is extremely infectious, strict isolation of the sufferers is essential, as well as careful disinfection of the sputum and nasal discharges. The disease seems specially fatal to the aged, who should therefore be most carefully protected from infection. After the recovery or death of a patient, his rooms and clothing need disinfecting.

School Hygiene and School Closure.—The system of notification by the head teacher of infectious diseases occurring amongst the children attending school, is of great value. It is necessary to point out that there should be no undue delay in such notifications being sent direct to the Health Office.

School Closure.—One school, viz., Broken Cross Elementary School, was closed for three weeks from November 19th, on account of the prevalence of diphtheria, amongst the Scholars.

Medical Inspection of School Children.—At a Special Meeting of the School Management Committee, held on 17th January, 1908, they had under consideration the question of the Medical Inspection of Children in Public Elementary Schools, in pursuance of "The Education (Administrative Provisions) Act, 1907." The Secretary submitted a summary of replies, received from other towns, to various questions on this subject, and also a Report as to number of children admitted and number leaving the Elementary Schools of this Borough in each year, in which Report he estimated the total yearly average "Admissions" and "Lefts" to be 1400.

The Medical Officer of Health then reported to the meeting his recommendations on this matter, which were as follows:—

(1) This Local Education Authority to appoint four Medical Inspectors who will undertake the medical examination of all the children in the Elementary Schools; the results of these inspections to be reported to the Medical Officer of Health, who should prepare an annual report to be presented to the Local Education Authority. Two copies of this report would then be forwarded to the Board of Education, as soon as possible after the end of the calendar year under review.

(2) This Local Education Authority to assign to each of the four Medical Inspectors mentioned above, certain Schools, these Schools to be allocated, so that the number of scholars should be as evenly divided as possible amongst the four Medical Inspectors appointed.

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(3) As regards the Inspection of Schools the present arrangement to be retained, i.e., to all intents and purposes under the immediate control of the Health Authority.

(4) As regards the cost, the Medical Officer of Health suggested that a minimum fee of 2/- per case for each inspection be paid.

This Report of the Medical Officer of Health was adopted, and subsequently its adoption was confirmed by the Town Council. Four medical men, practising in the Borough, have been duly appointed to carry out the work of inspection on the lines laid down.

Puerperal Fever.—Three cases were notified, and none proved fatal.

The great control which will be exercised in future over midwives, and the great clearliness which will be ensured, cannot fail to reduce the number of cases of puerperal fever, and the mortality therefrom. At present the disease is very irregularly notified, and it is certainly of more frequent occurrence among those who, from poverty or otherwise, are without skilled medical attendance and good nursing. It thus happens that numbers of cases are never seen by a Medical Practitioner.

In Macclesfield the Medical Officer of Health on receiving a notification of puerperal fever, at once inquires into the case, and visits the midwife, requiring her to discontinue practise till she has submitted herself and her appliances to cleansing and disinfection. This is done at the Isolation Hospital. No difficulty has been found in getting infected midwives to submit to the process prescribed.

Probably an increased amount of infection will be discovered henceforward, as a certified midwife is required to notify to the Local Supervising Authority any case which she is attending, where after delivery the temperature rises to 100.4 Fah., with quickening of the pulse, for more than 24 hours.

Tuberculosis.—In 1907 there were 51 deaths from phthisis, 6 from general tuberculosis, 5 from tubercular meningitis, and 3 from tabes mesenterica. Thus the deaths from phthisis were equal to 1.47 per 1,000 living, and the deaths from all forms were equal to 1.64 per 1,000 living.

Action taken to prevent the spread of Phthisis.—The action which has been taken may be summarised as follows :—

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- (1) Cards have been printed and distributed warning persons against indiscriminate spitting.
- (2) A Bye-law has been passed imposing a penalty on any person who shall spit on the floors, side, or wall of any public carriage, or of any public hall, public waiting room, or place of public entertainment.
- (3) The Ladies' Public Health Society have had a leaflet printed, giving instructions for consumptives and those in charge of them.
- (4) The officials of the Health Department have arranged for the disinfection of any house or clothing used by consumptives on request.

If the spread of phthisis is to be effectively dealt with, notification must be systematic and regular, and contaminated houses and clothing must be thoroughly disinfected.

Again it must be borne in mind that to properly combat the infectiousness of a consumptive patient involves combating that infectiousness during the whole period of infection. The most important preventive measure is thorough disinfection of the expectoration or other discharges from persons suffering from the disease. The patient should be impressed with the fact that he is a possible source of infection to others, and that it is quite within his power to control the spread of the disease from himself, by attention to a few simple details that will in no way interfere with his comfort. If he be suffering from pulmonary consumption, the expectoration should be spat into covered vessels containing a disinfectant fluid, or into handkerchiefs that are afterwards disinfected. There are various other details that require attention, such as the scalding of bed clothing soiled by tuberculous sputum ; he should be provided with his own eating utensils, etc., to be used by him alone, and these should be scalded immediately after use. Scrupulous cleanliness is required in the living and bedroom ; and under no circumstances should spitting be permitted except into a covered vessel or handkerchief which can be promptly washed.

“Dusting” should not be practised, but all cleansing should be effected by a cloth moistened with a disinfectant.

For the effective carrying out of compulsory disinfection, all medical men practising in the town should be provided with a form of certificate, which they should be requested to fill in on the termination of an illness, or the removal of a patient suffering from any infectious form of tuberculosis.

*Macclesfield Municipal Borough.***Examination of the Sputum of Consumptives.**—

Specimens of sputum are sent by the Medical Officer of Health (for medical practitioners) to the Lister Institute for examination, to see if the bacillus of tuberculosis is present. Several specimens should be sent before a negative opinion as regards the case can be given.

Sanatoria for Consumptive Patients.—The Medical Officer of Health points out that in 1907 of 214 people between the ages of 25 and 65 years who died in the Borough, no less than 39, or 18 per cent., succumbed to phthisis. At this age period the value of life to a community is greatest. Believing that consumption is an infectious disease, and will yield to preventive measures, steps should be taken to check this annual loss.

The first mode of distribution occurs when the sufferer spits indiscriminately on walls, floors, &c., and when such sputum is not washed away at once, but allowed to become dry. It occurs in the crowded dwelling-houses of the poor, in common lodging-houses, &c. In such places a terrible amount of infection is concentrated. This is probably a serious source of infection. Secondly elderly people, supposed to be suffering from chronic bronchitis, winter cough, &c., are infected with tuberculosis, and, in such cases, the sputum should be examined for the presence of the tubercle bacillus.

This second mode of distribution is probably of comparatively slight importance, and yet should be guarded against, by those in close daily contact with the sufferer.

Till a Sanatorium for consumption is available for the poor, The Medical Officer thinks that some temporary accommodation might be provided. He proposes that the Small-pox Hospital (which is often not used for long periods) might be used for patients who at home are a danger to their families and others. "Again," he adds, "why should not the General Infirmary be subsidised to take suitable cases, and one or two small chalets made of wood be erected on the vacant land around the Infirmary. Surely this is such work as the Institution was founded for. It is not fair to treat advanced cases of phthisis in the general wards, but small shelters can be erected in the grounds for about £20 to £30 each, which would serve to house the cases of phthisis."

The Medical Officer points out, for the information of the Sanitary Authority, that the hospital treatment of pulmonary tuberculosis may be undertaken principally on two grounds, which

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differ essentially in principal. The first consideration may be the public health, or the individual sufferer, and the objects to be attained may be

- (1) The prevention of the spread of infection.
- (2) The cure of the sufferer.
- (3) The education of the sufferer in the methods of cure, and the means to be adopted to prevent his infecting others.

He says further, "I am strongly of opinion that the cases which most urgently need attention are those of sufferers who are in an advanced stage of the disease, and who, from their surroundings, are incapable of being sufficiently isolated to prevent a large amount of possible infection taking place from them.

The curative and educational advantages of sanatorium treatment are incontestible, but where cost has to enter into the consideration, I certainly think that the isolation of the most dangerously infectious cases should be the first duty of a Sanitary Authority.

It is probably the minimum requirement, but still I think it is the primary one.

I again suggest that the example of Manchester might be followed, and that we might try, for a few months, the use of our Small-pox Hospital (which has been disused for some years) for a few cases of phthisis, which, on careful examination of their surroundings, seem likely to act as spreaders of further infection. It would be an expenditure of money well calculated to bring a good return in a diminished death-rate from consumption during the next few years."

Milk and Tuberculosis.—Consequent upon the statement by Professor Koch at the Congress on Tuberculosis, held in London in 1901, that bovine tuberculosis was scarcely, if at all, transmissible to man, a Royal Commission was appointed to inquire and report as to—

1. Whether the disease in animals and man is one and the same.
2. Whether animals and man can be reciprocally infected with it.
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favourable, or unfavourable, to such transmission.

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The Commissioners issued their First Interim Report in 1904, in which they stated "that tubercle of human origin can give rise in the bovine animal to tuberculosis, identical with ordinary bovine tuberculosis." In January, 1907, the Second Interim Report appeared, and the conclusions arrived at were as follows:—

"There can be no doubt but that, in a certain number of cases, tuberculosis occurring in the human subject, especially in children, is the direct result of the introduction into the human body of the bacillus of bovine tuberculosis; and there can also be no doubt that in the majority, at least, of these cases, the bacillus is introduced through cow's milk. Cow's milk, containing bovine tubercle bacilli, is clearly a cause of tuberculosis, and of fatal tuberculosis in man.

"A very considerable amount of disease, and of loss of life, especially among the young, must be attributed to the consumption of cow's milk containing tubercle bacilli. The presence of tubercle bacilli can be detected, though with some difficulty, if the proper means be adopted. The milk coming from a tuberculous cow ought not to form part of human food, and indeed ought not to be used for food at all. Results clearly point to the necessity of measures, more stringent than those at present enforced, being taken to prevent the sale or the consumption of such milk."

Bearing these facts in mind, I strongly advise the Health Committee to require samples of milk sold in the Borough, to be taken, and examinations made for tubercle, and if the bacillus is found, that the vendor be informed and required to cease selling such milk in the town.

Diarrhœa.—By this term is meant those acute specific attacks of illness in which diarrhœa is the most prominent symptom, which occur in persons of all ages, but especially in infants and young children, towards the middle or close of a hot dry summer. The enfeebled in health appear to be especially liable to this disease, the immediate cause often being the consumption of tainted food or impure water. The presence or absence of diarrhœa in a community, as a cause of death, indicate the sanitary or insanitary condition of a district, and thus the diarrhœa death-rate frequently serves to shew the need of more efficient sanitary supervision being exercised by the Authority.

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During 1907 there were 2 deaths ascribed to diarrhoea. So large a number indicates the need of more sanitary measures in the localities where diarrhoea has most prevailed. Both of those who died were infants who had not completed their first year. The Medical Officer of Health suggests certain measures which should be taken to check the spread of this disease, and which will in addition improve the health of the people generally, they are as follows:—

1. Special effort should be made to provide a clean and wholesome milk supply. Greater cleanliness of hands, clothing and person of the milker and milk vendor is required in many cases. The cows also require more cleanly treatment than many at present receive. The flanks require grooming, the cows udders washing, before milking, &c.

2. Education of girls of the poorer class in the cleanliness, and in the requirements of children, is of capital importance; some knowledge of infant feeding, and of the signs of illness in infants is necessary.

3. Female teachers should receive practical training in these subjects.

4. All yards and passages should be kept clean, especially where houses are crowded together. It is essential for the attainment of this object that water-closets should be substituted for pails and middens, and that passages and yards should be truly levelled, well drained, and well paved.

5. A study of the house-fly is needed, and pains should be taken to reduce the numbers produced and the numbers inside houses. To reduce the numbers outside it would be necessary to carry out the changes mentioned under (4); to provide horse-manure receptacles inaccessible to flies; and to so store, as far as practicable, all collections of manure, refuse, and decaying vegetables, that they could not serve as breeding grounds for flies.

It would also be necessary to insist on cleanliness and tidiness in the home.

6. Householders should be educated not to allow their infants to come into intimate relation with any person suffering from diarrhoea, and to take special precautions when diarrhoea has invaded the household.

Cancer.—The number of deaths from this disease in 1907 was 39. Cancer every year claims many victims. At

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present the Authority is helpless to prevent its spread; however, it certainly seems desirable that rooms in which people suffering from cancer have lived and died should be cleansed and disinfected.

Disinfection.—The Medical Officer of Health has commenced using formic-aldehyde spray for the disinfection of premises. A 5 per cent. solution of formalin in water is used (formalin being a 40 per cent. solution of formic-aldehyde gas in water). Spraying appears to be a better way of disinfecting than mere ærial disinfection by sulphurous acid gas, or formalin vapour. The routine method of disinfection now is, to remove from the room all the bedding, clothing, etc., to the Thresh-disinfector, then to liberally spray the room, and afterwards to leave a formalin lamp burning in the room for some hours.

The Isolation Hospitals.—Separate provision is made for the isolation of small-pox and of other cases of infectious disease. There were in all 74 patients removed to Hospital in 1907. Of these 48 were cases of scarlet fever, and 26 were cases of diphtheria.

Many improvements have been carried out at the hospital, during the year. The new building for sixteen beds is practically completed.

A four-inch gas main has been carried up to the hospital, and arrangements are being made to light the grounds and buildings by incandescent gas mantles. This will be a great improvement. With a modern up-to-date building of brick, well constructed wards, abundant supply of hot and cold water, gas for lighting, a good sewerage scheme, and, most important of all, a well trained staff of permanent nurses, it is hardly possible to realise the difficult conditions under which an attempt was made to deal with infectious diseases nine or ten years ago.

All the patients were professionally attended by the Medical Officer of Health, necessitating many hundreds of journeys to the Hospitals. The Medical Officer of Health receives for this £20 per annum.

The value of these hospitals lies primarily, not in the work they accomplish, but in the prevention of the spread of disease. When an infectious disease becomes seriously epidemic, it shows that the hospital has failed to carry out its primary object—the checking of the spread of infection in the early stage.

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The Medical Officer of Health has not been able to discover any "return cases," although they have been most carefully looked for. The Sanitary Authority protect themselves by giving to the child's parents or guardians a signed notice, that the Corporation will not be liable for future infection after the child's discharge from hospital.

Hospital Accommodation for Contiguous Districts.—The Macclesfield Rural District Council have entered into an agreement to have 4 beds reserved for their use. However, in 1907, only 2 patients were admitted from the Rural District. Bollington Urban District Council have also entered into an agreement with the Corporation to reserve 4 beds at the hospital for their use.

This, of course, necessitated the provision of extended accommodation, and plans are being prepared for the erection of a single storey brick structure, to contain 16 beds in two separate divisions of eight beds each, the eight beds being sub-divided into two wards, one of five beds and one of three beds. There will thus be four wards, two containing five beds, each, and two containing three beds each, the entire structure so arranged as to permit of two kinds of infectious disease being treated therein, without risk of cross-infection. In addition, arrangements have been made for the removal of the patients and the disinfection of the clothing, bedding, &c., in the steam disinfector.

When this new block is finished, there will be forty beds and five children's cots for general infectious diseases, and twelve beds for small-pox, the latter being situated in a separate block, a quarter of a mile from the general Isolation Hospital, and having separate nurses' house, wash-house, &c.

The Small-pox Hospital.—This hospital has fortunately not been required during the year, but it is kept in readiness and is periodically inspected by the Medical Officer of Health and the Matron. During the height of the scarlet fever epidemic, it was most useful as a dormitory for the extra nurses required. It has been placed in telephonic communication with the General Isolation Hospital, and with the Town Hall, and Medical Officer of Health.

Accommodation for Small-pox "Contacts" and "Suspects."—Two cottages in Moss Lane, close to the Small-pox hospital have been thoroughly altered and re-arranged,

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so as to be quite suitable places for the temporary lodgment of contact and suspected cases of small-pox. Two baths, hot and cold water, boiler for washing, &c., have been provided.

A new Ambulance was purchased in 1906. The Medical Officer of Health reports that this is an up-to-date brougham ambulance. It is well equipped and has proved invaluable.

The Water Supply has been abundant and unrestricted during the whole year. The Medical Officer of Health again points out that one of the weakest spots in the Borough water service is the unprotected condition of some of the water courses which supply the storage reservoirs at Langley. Frequent inspections should be made of these streams and precautions enforced to secure them against pollution with faecal matter. Such pollution may take place for years and pass unrecognised, until faecal matter from a person suffering from typhoid fever gains entrance to the water, when an uncontrollable epidemic may ensue. This was the experience of Maidstone in recent years, and should serve as a warning to other towns. Increased filtering accommodation is certainly needed. In hot weather the present filter beds are strained to their utmost, and any tendency to increase the rapidity of filtration by too frequent scraping of the surface of the filter beds is to be strongly deprecated, by so doing the upper two or three inches of filtering material, which is produced by the growth of low forms of vegetable life in the sand, is removed, and it takes several days before it is renewed. During this interval, there is great danger of insufficiently purified water being delivered to the town, with consequent risk to life and health. In proof of these statements the Medical Officer of Health quotes the Report of the Annual Inspection of the Water-works by the Water Committee, on July 24th, 1906; confirmed by Council, September 5th, 1906.

Refuse Removal.—The major part of the night-soil and dry-ash refuse is deposited in the Dane Moss tip, and a certain quantity is sold to farmers. The danger of all tips in the neighbourhood of towns is, that as the area of a town increases these muck-heaps often become the sites for building, long before natural agencies have succeeded in purifying the “made soil.” The contents of the dust-bins and dry-ash pails are removed once a week. A more frequent removal is needed during the summer months, particularly in the more congested parts of the town.

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The number of loads of night-soil removed, and the cost of removing it during the fifteen years, 1893-1907, is as follows:—

Year.			No. of Loads.			Expenditure.		
						£	s.	d.
1893	...		10,975	...		1,837	1	9
1894	...		12,733	...		1,714	15	8
1895	...		12,289	...		1,652	6	8
1896	...		12,407	...		1,807	12	6
1897	..		13,283	...		2,006	2	3
1898	...		13,619	...		2,104	2	4
1899	...		13,040	.		2,169	16	10
1900	...		12,057	...		2,093	10	0
1901	...		11,215	..		2,425	14	2
1902	...		12,532	...		2,334	10	9
1903	...		11,912	...		2,260	10	5
1904	...		10,371	...		1,999	6	4
1905	...		11,082	...		1,895	3	5
1906	...		11,885	...		1,841	9	1
1907	...		11,921	...		2,128	7	8

The expenditure included the cost of the Dane Moss Farm.

Numerous and repeated complaints having been received during 1904, as to the unsatisfactory way in which privy-middens were emptied, the Sewage and Night-soil Sub-Committee resolved to offer the work for tender. A tender to empty and cleanse privies and ashpits for three years from October 1st for £500 per annum, and to cart night-soil, offal and other refuse from the Borough for £676 per annum was accepted. The Medical Officer of Health expressed the opinion that doing this work by contract was not likely to prove satisfactory. He now states that in 1906 the Cleansing Committee decided to terminate the contract for getting out and removing the night-soil and to undertake the work themselves. The work has now been taken over again by the Cleansing Committee, and is much more satisfactorily carried out. The number of complaints have been reduced to a minimum. All excrement from typhoid cases, where nursed at home, has been disinfected with per. chloride of mercury, and removed in pails daily and buried.

Privy-middens and their abolition.—During 1907 there were 425 privy-middens converted into water-closets. The following tabular statement shows that the number of water-closets in the town is being annually increased, but it

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also shows the large proportion of houses in the Borough at which the sole sanitary accommodation provided is the privy-midden.

Year.		No. of Privy Closets.	No. of Waste-water Closets	No. of Clean-water Closets.
1897	...	4,319	260	674
1898	...	4,157	301	710
1899	...	3,942	309	815
1900	...	3,862	309	940
1901	...	3,825	309	1,038
1902	...	3,705	309	1,205
1903	...	3,569	309	1,378
1904	...	3,387	309	1,628
1905	...	3,222	309	1,838
1906	...	3,053	309	2,052
1907	...	2,628	309	2,536

The Local Government Board communicated with the Sanitary Authority in October, 1906, and expressed the hope that in future reports of the Medical Officer of Health, they would be able to find that more rapid progress had been made in the conversion of privy-middens into water closets.

There has since been a marked quickening in the work of abolishing these insanitary abominations.

The Cleansing Committee have devoted an immense amount of time and trouble to bring about this very satisfactory result.

New Houses.—Plans for 13 new dwelling-houses were passed in 1907.

Sewering.—During 1907 the following streets were sewered :—

- 33 yards in North Street, Sutton.
- 68 yards in Cross Street, Sutton.
- 24 yards in Waterloo Street.
- 18 yards in Lord Street.
- 44 yards in 108 Steps.

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There are several streets, particularly in East Macclesfield, which are not yet properly sewered, and, until a proper pipe sewer is placed therein, it is impossible to ask property owners to substitute water closets for privies.

This matter engaged the attention of the Cleansing Committee, and at a meeting held on the 15th of March, the Committee, along with the Medical Officer of Health and the Borough Surveyor went carefully through the Borough Surveyor's lists of streets without piped sewers, in the East Macclesfield district, and selected the following streets which, in their opinion, require sewerage, and are the most urgent :

No.	Name of Street.	From	To	Public Street	Private Street	If Soughs in.
1.	Bank Street	Swettenham St.	Black Road	1	...	1
2.	Beech Lane	Jordangate	Pearl Street	1	...	1
3.	Blakelow Road	Buxton Old Rd.	New Property	1	...	...
4.	Canal Street	Baths	East End	...	1	1
5.	Cawley Street	Brook Street	Joddrell Street	..	1	1
6.	Church Side	Churchwallgate	108 Steps	1	...	1
7.	Eastgate	King Street	Waterloo Street	...	1	1
8.	Goodall Street	Brook Street	Bank Street	...	1	1
9.	Hope Street	Buxton Road	South End	...	1	1
10.	108 Steps	Top Part	—	1	...	1
11.	Justice Street	Spring Gardens	Fowler Street	...	1	1
12.	Leigh Street	Brook Street	Bank Street	...	1	1
13.	London Road	North Street	Lyme Avenue	1		1
14.	Millstone Passage	Mill Green	Millstone	...	1	1
15.	Mill Street	Roe Street	Duke Street	1	...	1
16.	Saville Street	Windmill Street	Copper Street	...	1	1
17.	Swettenham St.	Brook Street	Bank Street	...	1	1
18.	Vernon Street	Buxton Road	North End	...	1	1
19.	Waterloo Street	Commercial Rd.	York Street	1	...	1
20.	William Street	Buxton Road	North End	...	1	1
21.	York Street	Waterloo Street.	Buxton Road	1	..	1

It is to be hoped in the interest of the health of this District that some progress may be made in getting this work done.

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The Sewage Disposal Works.—During 1904 a Local Government Board Inquiry was held with reference to an application of the Town Council for sanction to borrow £14,000, for alterations and extensions at the Sewage Disposal Works at Butley, and sanction was obtained. This important work was commenced in August, 1904, and the works have since been constructed; for some time the effluents discharged were unsatisfactory, but improvements have recently been effected.

Common Lodging-houses.—During 1907 there were 426 visits of inspection paid to these houses. There are 8 houses on the Register. The number of nightly lodgers accommodated during the year was 33,604. Generally speaking the houses have been well-conducted. One house is not well kept, but this is mainly due to the old age and infirmity of the keeper.

No steps have been taken to provide a Municipal Common Lodging-house, although one is much needed.

Factory and Workshop Act, 1901.—This Act came into force on January 1st, 1902. The Medical Officer of Health does not consider the provisions of the Act are as fully carried out as they should be, and is of opinion that this may be due to the fact that the Town Council have not yet, by resolution, definitely deputed anyone to carry out the sanitary provisions of the Act.

The Sanitary Inspector has made 34 visits of inspection to Factories and Workshops during 1907, but this, as is pointed out cannot be sufficient sanitary supervision.

There are in the Borough 131 workshops all duly registered. As the result of inspection, 65 nuisances were found, the premises in an uncleanly condition, and in each case the defect has been remedied. In 2 cases the sanitary accommodation was unsatisfactory. The illegal occupation of 2 underground bakehouses was also noticed and reported.

Dairies, Cowsheds and Milkshops.—There are 70 persons registered as cowkeepers or milksellers in the Borough, and 134 visits were made. Their premises are kept in a cleanly state, and periodically whitewashed. The register is being revised.

Slaughter-houses.—There are 22 slaughter-houses and premises used for tripe-dressing in the Borough, all under regular

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inspection. During the year 312 visits of inspection were paid to these premises. The Inspector states that the use of smaller garbage pails would facilitate the emptying of garbage.

Unsound Meat, &c.—During 1907 no carcasses were seized. The following were submitted for inspection, condemned and destroyed :—1,980 lbs. of beef, 120 lbs. of veal, and 4 lbs. of liver.

Sale of Foods and Drugs Act.—A large number of samples were taken for analysis in 1907 ; they were as follows :—28 milk, 20 butter, 6 coffee, 6 lard, 2 cheese, 5 whiskey, 5 bread, 5 ground ginger, 4 arrowroot, 3 white pepper, 3 cream of tartar, 3 vinegar, 2 mustard, 1 sugar ; total 93. Three persons were proceeded against under the Act.

Nuisance abatement is attended to by the Sanitary Inspector. During the year there have been 763 nuisances entered on the books, out of which 754 have been satisfactorily abated. 253 were brought to notice by complaints, and 510 by the observation of the Inspectors. The Inspectors wrote 648 letters, served 186 statutory notices, and obtained one Magistrates' Order. 425 privy closets have been converted to water closets, and dry ashbins, twice as many as in any previous year. 59 new water closets have been built and 27 privy closets repaired. 154 house drains have been repaired, or relaid with better joints. One slop pipe disconnected from the drain, and 163 house drains tested with the smoke test. 203 nuisances from other causes, such as offensive swill tubs, neglected manure heaps, animals kept so as to be a nuisance, etc., etc., have been removed. 92 dirty or overcrowded houses have been dealt with. The windows of 18 houses have been made to open with larger openings.

Canal Boats Acts.—60 boats were inspected and 10 infringements found, all of which were rectified on the responsible person being served with the usual notice.

ST ALYBRIDGE

Municipal Borough.

Medical Officer of Health—DR. W. J. HANCOCK.

Population at Census, 1901—27,673.

Estimated Population in middle of 1907—28,793.

Area in acres—3,130.

Birth-rate per 1,000 living—22.2.

Death-rate per 1,000 living—21.7.

Death-rate from seven principal Zymotic Diseases—3.4.

Deaths under one year to 1,000 births—218.

This Borough is divided into four Wards, the population of which, as enumerated at the Census in 1901, was as follows :—

Dukinfield Ward ...	...	7,907
Lancashire Ward .	...	5,983
Millbrook Ward ...	...	4,039
Staley Ward	...	9,744

The population was 26,783 at the Census in 1891, and 27,673 at the Census in 1901. The increase in the population during the decennium 1891-1901 was thus 890, that is 3.3 per cent. The estimate of the population made for the middle of the year 1907 is 28,793.

The births registered in the District during 1907 numbered 641, and the deaths belonging to the District numbered 626. The deaths include those of residents which took place beyond the District, in the Workhouse, the Infirmary, and the Ashton-under-Lyne Borough Hospital. The birth-rate is 3.1 below the average in the 10 years, and the death-rate is 1.2 above.

The birth-rates and death-rates for 1907 in the 4 Wards were as follows :—

	Birth-rate.	Death-rate.
Lancashire Ward ...	24.0	22.8
Staley Ward ...	19.8	20.9
Dukinfield Ward...	27.4	24.9
Millbrook Ward ...	13.5	13.8

There were 100 deaths from the principal zymotic diseases, viz. :—73 measles, 1 scarlet fever, 14 whooping-cough, 4 diphtheria, and 5 diarrhoea. There were also 39 deaths from phthisis, 20 from other tubercular disease, 22 from cancer, 83 from bronchitis,

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48 from pneumonia, 2 from pleurisy, 7 from other respiratory diseases, 1 from alcoholism, 10 from premature birth, 2 from diseases of parturition, 62 from heart diseases, 9 from accidents, and 4 from suicide.

Infant Mortality.—Among those who died in 1907, 140 were infants under 1 year of age. This is equal to a death-rate of 218 per 1000 births.

In 1906 the proportion of infants who died was equal to 206 per 1000 births. The proportion in the Borough during the ten years 1897 to 1906 was 205 per 1000 births.

The number of deaths of infants under a year old to each 1000 births registered in 1907 and 1906, in the 4 Wards of the Borough, were as follows :—

	1907.		1906.
Lancashire Ward	174	...	236
Staley „	235	...	176
Dukinfield „	224	...	244
Millbrook „	209	...	154

The heavy infant mortality was principally due to the prevalence of the two non-notifiable diseases, measles and whooping-cough. During 1907 there were fewer deaths from infantile diarrhoea than usual, owing to the cool summer.

Commenting on the subject of infantile mortality in Stalybridge, the Medical Officer of Health writes as follows :—

“In my previous reports I have dealt with the evil results of improper feeding, and of exposure to cold, during the first year of life and have referred to the fact that the Council have repeatedly called public attention to these matters with the idea of impressing parents and guardians with their serious importance. They have issued a leaflet of ‘Instructions upon the Feeding and Management of Infants’ to be distributed by the Registrar whenever a birth is registered.

“In June I was asked by the Sanitary Committee to make inquiries of similar boroughs as to their experience of the utility of lady health visitors. Following upon my report a sub-committee was appointed in August ‘to consider and report as to the advisability of appointing a lady health visitor for the Borough,’ with the result that,

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in December, a fully qualified and experienced lady sanitary inspector was appointed to commence her duties at the beginning of February.

“The Notification of Births Act, 1907, has been adopted for the Borough, and came into force on March 1st, 1908.

“It is anticipated that these steps will greatly assist in reducing the infantile mortality, which is admitted by all to be far in excess of what it should be in our Borough.

“While much may be done by the Sanitary Authority in the way of advice and inspection of the milk supply, where artificial feeding cannot be avoided, still it is essential that the people should be warned that the danger is likely to arise in their own homes, and is not always the fault of the purveyor of milk, I am convinced that it is only by getting parents and guardians to recognise their grave responsibilities and by their becoming fully alive to the extreme care an infant needs during the first year of its existence, that we shall succeed in warding off those illnesses which make the loss of infant life so heavy.”

Infectious Diseases Notified.—There were 109 cases of infectious disease notified, viz.: 10 diphtheria, 8 erysipelas, 81 scarlet fever, 9 enteric fever, and 1 puerperal fever. None of these cases were removed to hospital.

The number of cases notified yearly, from 1892, is as follows—

1892	1893	1894	1895	1896	1897	1898	1899	1900
201	218	80	103	272	253	206	215	154
	1901	1902	1903	1904	1905	1906	1907	
	168	274	99	145	144	79	109	

The compulsory notification of cases of infectious disease has given serviceable direction to much of the work of general inspection in the Borough. All premises in which cases of infectious disease are reported are at once visited by the Medical Officer of Health and Inspector of Nuisances, and many sanitary defects are thus discovered and remedied.

All practical precautions are taken to prevent the spread of the disease.

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Whenever it is advisable, the Librarian is informed, so that the issue of books to the infected family may be temporarily stopped, and any books which have become contaminated are taken by the sanitary inspector, destroyed, and replaced at the expense of the Sanitary Committee. Heads of schools are also similarly notified, so that children from infected homes may not be admitted.

Scarlet Fever.—There were 81 cases of this disease during 1907, but only 1 ended fatally. Owing to the fact that the disease was of a very mild type, and that many cases were not recognized until desquamation had commenced, it spread considerably.

Lancashire Ward had 37 cases, in 28 houses; Staley 22 cases, in 19 houses; Millbrook 18 cases, in 15 houses; and Dukinfield 4 cases, in 4 houses.

Diphtheria and Membranous Croup.—There were 10 cases notified under this heading, and 4 deaths ensued. This was a high case-mortality. The Medical Officer of Health trusts that such a high rate of mortality “will be diminished with earlier application of more modern treatment.”

Whooping-cough.—There were 14 deaths from this disease.

Puerperal Fever.—The only case of this disease ended in the recovery of the patient.

Diarrhœa and Enteritis.—There were 5 deaths from diarrhœa, and 11 from enteritis: a smaller number than usual, owing to the cool wet summer.

Enteric Fever.—The number of cases of enteric fever was 9, comparing favourably with the record for 1906 (11), and for 1905 (16), but the case-mortality was relatively higher, 3 cases having proved fatal.

As time goes on, and progress is made in rendering the town more sanitary, there is reason to believe there will be less enteric fever. In Stalybridge, the disease seems to be most frequently conveyed by the air, or by flies from foul privy-ashpits. These are gradually being replaced by water-closets, and ashbins which can be frequently emptied.

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Measles.—A severe epidemic of measles prevailed during the early months of the year, and occasioned 73 deaths. An account of this epidemic is given in the Report prepared by the Medical Officer of Health, at the request of the Local Government Board.

His Report is as follows :—

“It is three years—in 1904—since our Borough was visited by an epidemic of measles, when 48 deaths resulted therefrom, while there were in 1905 only 9 deaths and in 1906 only 2 deaths from the disease.

“The first intimation of the recent outbreak of measles in the Borough was the record of a death from the disease during the week ending January 5th, 1907. This death occurred on December 30th, 1906, and was followed by 6 more deaths during the month of January. Up to this time there was no reason to anticipate any serious outbreak of the disease, but early in February the reports of the School Attendance Officers, as well as the increasing number of deaths recorded each week, indicated that the measles was rapidly becoming a widespread epidemic, and was assuming a more malignant character.

“At this time I consulted the Chairman of the Health Committee, and discussed with him the advisability of closing the schools in the Borough, but, seeing that it had never been the custom here to close the schools for measles, and further that the Education Authority expressed no wish for that course to be adopted, we decided upon the issue of a handbill to the public. This handbill was at once issued, and distributed from house to house throughout the Borough.

“The outbreak seems to have occurred in different parts of the Borough about the same time, and this is not to be wondered at considering the freedom of communication between the Borough and the neighbouring Borough of Ashton-under-Lyne, where measles was prevalent towards the close of last year. Judging from the returns of the School Attendance Officers, Old and New St. George's Schools appear to have suffered early, and were soon followed by Castle Hall, Christ Church and Hob Hill Schools, after which came St. Peter's, the Wesleyan, St. James's, St. John's and St. Paul's Schools, in order of decreasing severity of attack, while Buckton Vale and Heyrod Schools remained free.

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“During the month of February the number of cases and the number of deaths rose rapidly, the climax being reached at the end of that month, when no fewer than 608 children were reported away from School with measles, or owing to association therewith. From this time, however, there was a steady decline both in cases and deaths, which decline continued throughout March and April, so that by the beginning of May the epidemic was practically at an end, and no death from measles has been recorded since May 2nd.”

This heavy mortality I can only explain as due to a combination of causes :—

- (1) The slight attention usually given to measles. The public regard the disease as a simple affection of childhood from which all must suffer, and the sooner they get through it the better, whereas it is one of the most fatal of children's diseases and one which should be avoided as long as possible ;
- (2) The somewhat severe type of this epidemic. One cannot but be struck with the fact that while scarlet fever has for some years past been diminishing in severity of type, epidemics of measles have rather increased in malignancy ;
- (3) The climatic conditions prevailing during the first quarter of this year, as indicated not only in the very frequent development of fatal broncho-pneumonia in those attacked by this epidemic of measles, but also in the increased number of deaths (51) from respiratory diseases (bronchitis, pneumonia and pleurisy) during the quarter, as compared with the number of deaths (37) during the corresponding quarter of 1906 ;
- (4) The social condition of the persons amongst whom the disease was most prevalent. The majority of the deaths took place in homes in the poorer districts of the town, where isolation of the sufferers was unattainable, and, in not a few instances, where medical aid was not sought until the sufferer was in extremis.

As regards the steps taken to prevent the spread of the disease, they comprised—

- (1) Exclusion from school of all the children of any household where measles was known to be present,

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until the last case in that household was free from infection ;

- (2) A house to house distribution throughout the Borough of a handbill to impress upon the public—
- (a) The seriousness of the disease ;
 - (b) The necessity of prompt and careful nursing of those attacked ;
 - (c) The advisability of avoiding any and every risk of children contracting the disease.

It cannot be too clearly brought home to the public that measles and whooping cough are the two most infectious of diseases, and that, without their willing and intelligent co-operation, they are the two most difficult to control of all the infectious diseases with which a Sanitary Authority has to contend.

Isolation Hospital Accommodation.—Unfortunately the District is still without Isolation Hospital accommodation for infectious diseases other than small-pox.

For small pox it is sufficiently provided, along with the neighbouring Authorities of Ashton-under-Lyne, Hurst, Limehurst and Audenshaw, at Hartshead.

The hospital proper is a corrugated iron building, containing two wards with 10 beds in each ward, and with annexes for earth closets and sinks, and kitchen and bath-room.

The old farm house adjoining the hospital has been adapted as an administration block for the matron and nurses, and a cottage for a caretaker.

Some outbuildings of the farm have been transformed so as to furnish a laundry, a disinfecting chamber with a Thresh's disinfecter, a storeroom, a dispensary, and day-rooms and bedrooms for convalescents and nurses, with bathrooms and W.C.

A Mortuary with two slabs is provided well away from the hospital.

The water supply is derived from the surrounding land, and collected in two large tanks, from which it is conveyed by galvanised iron service pipes. The water has been analysed and declared quite fit for all domestic purposes.

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The site at Hartshead belonging to the Joint Small-pox Hospital Board is an extensive one, comprising several plots, and measuring in all some 40 acres. Only a small portion of it is occupied by the Small-pox Hospital with its administration block and outbuildings, and there is ample scope for the erection of other blocks, in which provision should be made for other infectious diseases, notably scarlet fever, diphtheria, and typhoid fever.

It has frequently been a matter of regret and of anxiety to the Medical Officer of Health when such cases have occurred in dwellings where anything approaching isolation was altogether unattainable, or where it was impossible to check the coming in and out of inquisitive neighbours, that it was impossible to have the patient removed to a hospital, both for the benefit of the sufferer, and for the protection of the public. However, this state of things will, doubtless, before long be remedied, by the Authorities who are partners in the Small-pox Hospital Board combining, to form not only a Hospital District for small-pox, but also a Hospital District for other infectious diseases; in this way provision could be secured with greater economy, and with increased efficiency.

The Disinfection Station.—Although not yet suitably provided with isolation accommodation for such cases as it would be desirable to remove, the Borough now possesses an up-to-date disinfection station.

This station is situated at the Flatts, in proximity to the Destructor. It contains a receiving room, a bath room, a dressing room, and a discharging room, through which "contacts" can be passed so that they are then free to mingle again with their fellow men, while disinfection of clothing or bedding can be efficiently carried out by saturated steam under pressure in a "Nottingham" Steam Disinfector, fitted with vacuum and exhaust apparatus of the latest type.

The disinfector, which was completed on November 29th, 1907, has been used on one occasion, when the bedding from a house infected with scarlet fever was taken and disinfected. The disinfector works satisfactorily, but it takes a considerable time to get it in working order, owing to so much condensation of steam in the long supply pipe before it reaches the disinfecting chamber, together with the necessary heating of the chamber itself.

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Diseases of the Lungs.—In 1907 there were 39 deaths, from phthisis (a death-rate equal to 1.35 per 1,000 living), and there were 140 deaths from other diseases of the lungs (a death-rate equal to 4.86 per 1,000 living).

The year has been remarkable for sudden changes in its climatic conditions, which have considerably increased the already great number of deaths from diseases of the lungs, and with these the deaths from phthisis.

In several cases during the year disinfection of the apartments occupied by consumptives has been carried out by the Sanitary Authority, who are anxious to do this work thoroughly.

Phthisis is distinctly an infectious disease, and with the object of preventing its being conveyed from one person to another, the Sanitary Committee caused a handbill to be issued dealing with the disposal of the sputum, and advising the disinfection of apartments which had been occupied by consumptives. This handbill has been widely distributed, and copies have been printed on cardboard, and put up in mills and workshops.

Cancer was the certified cause of 22 deaths in 1907, a number equal to 0.76 per 1,000 living. The average number of deaths from cancer in 1901-5 was 25. Of the 22 who died from cancer in 1907, no less than 18 were women.

Midwives Act, 1902.—Since April 1st, 1905, no woman has been entitled to use the name or description of “midwife” unless she has a certificate from the Central Midwives’ Board.

At the beginning of the year 1907 there were 17 midwives residing in and practising in the Borough, but during the year one of them died, so that at the end of the year we have but 16 midwives on the register. Two of them are fully trained, two are partially trained, while the others have acquired their skill by years of practice.

The Infectious Disease (Prevention) Act, 1890, is in force in the Borough, having been adopted in July, 1891.

Water-supply.—The water-supply of the Borough is satisfactory. Along with the neighbouring Boroughs of Ashton-under-Lyne, Dukinfield and Mossley, Stalybridge is well supplied with an abundance of pure water from extensive

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reservoirs, which have a holding capacity of close upon 900,000,000 gallons, and the work of constructing a large reservoir in the Chew Valley, for water for compensation purposes, is now proceeding.

Factory and Workshop Act.—The factories in the Borough (including workshop factories) number 71. At three of the factories the sanitary conveniences have, during the year, been added to and put in a satisfactory condition.

As regards the workshops, of which there are at present 140 on the register, several of these have received the attention of the Sanitary Inspector, in such matters as want of ventilation, want of limewashing, and general cleanliness, omission to affix Abstract, insufficient sanitary accommodation, and other minor defects.

The majority of the bakehouses are kept in a very satisfactory condition, and none of them are underground. They have been visited by both the Sanitary Inspector and myself, and attention has been called to any defect or insanitary condition observed.

Inspection.—The Medical Officer of Health makes visits of inspection from time to time, being often accompanied by the Inspector of Nuisances.

Common Lodging-houses.—There are only two common lodging-houses in the Borough. They have been visited on several occasions, and attention has been drawn to any defective sanitary conditions which have been observed. The premises are kept in a clean condition, but during the summer a thorough inspection was made of the bedding, with the result that the Medical Officer condemned the continued use of the straw mattresses, which had become more or less filthy and verminous, and advised that they ought to be replaced by wire mattresses. Inquiry at the end of the year revealed the fact that at one of the houses the whole of them had been replaced, while at the other only two of the straw mattresses remained unchanged.

Dairies and Cowsheds.—The number of farmsteads is less than in 1906. Two have ceased keeping cattle, and one has been added to the register, making a total of 33. There are also the 4 “town’s” shippons as recorded last year. Many

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of the farm buildings, chiefly the shippons and dairies, are of an unsatisfactory character, and in one or two cases the general state of the premises—house, shippon, dairy, drainage, and water supply—make the same unfit for the accommodation of dairy cows and the storage of milk and other farm produce.

Several improvements, however, have been carried out by the owners during the past year.

Further alterations are proposed to be carried out at one or two farms at an early date, but the majority of the farms are in need of renovation. In the case of one or two of the smaller farmsteads the water-supply is of the scantiest, and the means of conveyance of same to the farmsteads allows the water to be liable to considerable pollution.

Milkshops.—There is an increase of 4 milkshops on last year's total, giving the number now on the register as 46.

They have been periodically inspected during the year, and it was found in several cases that the shops have new tenants, and also that two purveyors of milk have changed their addresses.

In one instance only has there been cause for complaint, for taken as a whole the purveyors of milk have maintained their premises and vessels in a fair state of cleanliness. The milk is generally found to be stored in large open earthenware vessels with wooden covers, on some part of the counter, or on a shelf in the shop.

Considering that the purveying of milk is only a small part of a general grocery business, as a rule it may be said that it is not retailed under the best conditions, and further legislation is required before this class of business can be efficiently dealt with, and the milk satisfactorily sold.

Slaughter-houses.—There are now 21 slaughter-houses within the Borough. Of this number ten are now subject to the renewal of the licenses annually, as required by the "Public Health Acts, Amendment Act, 1890." The remaining eleven are registered under previous Acts.

These premises, with two exceptions, have been kept in a good sanitary condition, the whitewashing, and general cleanliness having had constant attention. In the case of the two unsatisfactory premises, exception was taken to the

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renewal of the license this year, but on the promise of the necessary work, such as paving, removal of drain inlet to the outside of the slaughter-house, drain being re-opened, whitewashing, etc., having immediate attention, the licenses will be granted.

The conditions with regard to the registered slaughter-houses have had special attention during the past few months, and stringent measures are being considered for the general improvement of the slaughter-houses and the surrounding areas.

Meat Inspection.—During the year the Meat Inspector, Mr. Edward Brown, has inspected the carcasses of 41 pigs, which were slaughtered on unlicensed premises in various parts of the Borough. He found them all sound and in good condition.

He also inspected the carcass of a beast, which had been trampled upon in a cattle truck, and he had the bruised parts freely cut away and destroyed at the destructor. Another beast was so badly bruised that the whole carcass was removed to the destructor. Four sheep and one pig which were found dead were also destroyed.

Two cows slaughtered by butchers on licensed premises were reported to the Meat Inspector as “graped.” The disease was more or less localised, so the affected parts were freely cut away and destroyed.

It is pleasing to record that it was the butcher who in each instance called the attention of the Meat Inspector to the condition of the carcasses which were “graped,” and if only butchers continue to work in harmony with the Sanitary Authority it will be better for the public and better for the butchers themselves, for while the one will derive the advantage of sound meat, the others will reap the benefit of growing confidence in them.

Offensive Trades.—The one offensive trade within the Borough is that of tripe boiling. There are 9 premises used for this purpose, 6 of which adjoin and are situate in Back Castle Street. The remaining 3 are situated in High Street, Peel Street, and Water Street respectively.

The premises, taken as a whole, stand in a fairly good position, and are kept in a fair sanitary condition—well ventilated, well whitewashed and cleanly. The tripe boilers carry on their business with a minimum of nuisance, 2 complaints only having had to be made, one with respect to

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committing a smoke nuisance and the other with respect to neglect of whitewashing.

Smoke Observations.—The observations taken of factory chimneys have not been so numerous this year, but comparing the number taken and the number exceeding the time limit with last year's report, it will be found that there is a considerable reduction in the smoke nuisance. In 7 instances out of 59 observations the limit for dense smoke (10 minutes) has been exceeded. No proceedings have been taken, but in each case a notice has been sent and a copy of the observation enclosed. Replies were received promising to abate the nuisance.

Report of Inspector of Nuisances.—The Inspector, Mr. W. J. Bradbury, gives the following summary, showing the nature of the nuisances dealt with by him during 1907:—

Wet and Insanitary Ashpits	...	...	87
Closets blocked	...	...	19
Dilapidated and Insufficient Ashbins	..	...	47
Drains blocked	...	...	31
W.C's. without flushing apparatus	...	...	25
Defective and untrapped drains	...	..	28
Defective slopstone pipes	...	...	12
Accumulations of manure	...	...	10
Insufficient and unsatisfactory closet accommodation	...	...	11
Fowls and pigeons so kept as to be a nuisance	...	...	8
Defective closets and ashpits	...	...	7
Filthy closets	...	...	4
Defective flagging and paving	...	...	4
Dilapidated closet pails	...	...	3
Untrapped bath and lavatory wastes	...	...	1
Water in cellar	...	...	1
Defective soilpipe joint	...	...	1
Offensive smells	...	...	1
Total	..	...	300

Generally, the nuisances have been remedied shortly after the preliminary notice or letter has been served, but legal notices have been served for abatement of same in 12 instances.

The actual conversions from privy midden system to the water carriage system during the past year are as

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follows:—81 town's water closets and 10 waste water closets. In the case of old hopper closets without water fittings, 20 have been converted to town's water closets.

The butchers' and fish offal which is collected two or three times per week, is now taken to the destructor and destroyed with the other refuse.

Disposal of Refuse.—The old system of disposing of the ashpit refuse at the tips in different parts of the Borough is now practically at an end. The tips which are still in use are the "Brickyard" tip, Ridge Hill "Brushes" tip, and "Castle Clough" tip, Heyheads. The first mentioned will not hold much refuse; the second will hold refuse (if tipped) for an indefinite period. These two tips are used when the destructor is closed down for flue cleaning, and for disposing of clinker ashes from schools, etc. The last mentioned, "Castle Clough" tip, is used for Heyheads and Carrbrook refuse only.

The light refuse collected in the daytime was first sent to the destructor works in January, and the best of the midden refuse was sent early in April. In the months of April and May, 227 loads of dry refuse and 209 loads of night refuse were destroyed at the destructor.

The following table will give the number of loads deposited and destroyed at the destructor during the last 7 months of the year:—

			Day		Night		Total.
June	...	...	170	...	213	...	383
July	...	...	217	...	323	...	540
August	...	...	205	...	291	...	496
September	...	...	196	...	297	...	493
October	...	...	244	...	351	...	595
November	...	...	252	...	288	...	540
December	..	...	279	...	326	...	605

The following table gives the number of loads deposited at the tips, etc., for the same period:—

			Day.		Night.		Total.
June	...	...	79	...	81	...	160
July	...	...	35	...	57	...	92
August	5	...	38	...	43
September	18	...	56	...	74
October	23	...	56	...	79
November	14	...	60	..	74
December	22	...	61	...	83

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The average number of loads per month taken to the tips is 86.4, as against 521.2 taken to the destructor during the last 6 months of the year. The average number of loads deposited at the destructor per day since June 24th is : Night loads 12.4, Day loads 4.4 ; and the average weight was found to be, Night refuse 17t. 6c. 3q., Day refuse 11t. 7c. 3q, during the month of December.

The Refuse Destructor, erected by Heenan and Froude, of Manchester, is a five-cell furnace of the "Heenan" Patent Top Feed type, and is furnished with all the latest improvements.

It was first utilised on January 17th, 1907, when dry refuse was quietly burned in cells 1, 2 and 3 with the object of "drying" the flues and preparing the plant for more active work, and cells 4 and 5 were similarly started on January 23rd, 1907. Fires were thus kept going continuously until the plant was shut down for flue cleaning from May 23rd to 27th. The forced blast of hot air was first brought into use on April 18th.

In June, W. Hamer was appointed working foreman and commenced his duties on June 24th, since which time the destructor has been consuming all the refuse which could be taken to it.

The plant is shut down about every six weeks for a few days to allow of the cleaning of the combustion chamber, the flues, the superheater, etc.

At times there have been complaints of the emission of obnoxious fumes from the chimney, which many regard as not of sufficient height, but, usually, the cause has been the restarting of the furnaces after being shut down, and it has only continued until the temperature in the combustion chamber has attained a certain minimum. However, the makers of the plant are at the present time analysing the fumes emitted from the chimney, and we must await their report.

Since the destructor began to be used to consume the refuse, it has been possible to close the more objectionable of the "tips," which were at times a nuisance. The "tips" which have been entirely dispensed with include the "Hollins" tip, Tucker's and Wilson's tips on Ridge Hill, and the tip at the Flatts, in addition to a few "private tips" in use up to the time when the sanitary department undertook the removal of all the refuse.

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Sewering and Sewage Disposal.—The older portions of the Borough are now well sewered, and extensions are constantly being made into the more outlying portions of the town. The sewage is disposed of along with that of Dukinfield at Outfall Works, situated at Bradley Hurst, in the township of Dukinfield. The sewage farm has an area of $63\frac{1}{2}$ acres, and the average dry weather flow of sewage coming to the works from the combined districts is $2\frac{1}{2}$ million gallons per 24 hours. The method of treatment is by screening, chemical precipitation (alumino ferric and ferrozone being used), sedimentation in large tanks (of which there are 12 in two sets of 6 of 80,000 gallons capacity each) worked upon the continuous flow principle, and then passing the tank effluent on to large sand filters, which unfortunately have almost ceased to act as such, owing to the clayey nature of the soil forming the body of these filters, or on to one or other of 3 plots of land for land filtration, but these plots have become more or less sewage choked.

The sludge in the tanks passes into a sludge-well from which it is ejected into a sludge tower, ready to be conveyed to 2 large presses which convert it into a satisfactory sludge cake, which has been found to be of no little value as a manure.

During the year, 10,360 tons of wet sludge were taken from the tanks and pressed into sludge cake of a weight of 1,969 tons. Of this sludge cake no less than 1,763 loads have been taken by farmers for use as manure. The road dirt or sand taken from the detritus pits amounted to 368 tons.

In consequence of the condition of the sand filters and the 3 plots for land filtration the effluent has not always been of a satisfactory character, and on June 20th, 1907, the Mersey and Irwell Rivers Board took proceedings, at the Dukinfield Police Court, against the Joint Sewerage Board, with the result that an order was made calling upon the Joint Sewerage Board to deposit, within the next six months, with the Local Government Board, plans and specifications for the improvement of the works. Plans were prepared and deposited with the Local Government Board, and on December 19th, 1907, a further extension for three months was granted, pending inquiry and sanction by the Local Government Board.

The proposed scheme is one dealing with the relaying of the beds of the large sand filters, as well as with an extension of the filtering area, along with a method of distributing the tank effluent upon these filters by some form of sprinkling apparatus, and it also provides for dealing with the storm water by additional tanks and filters, at a total estimated cost of about £31,000.

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Canal Boats.—The Inspector, Mr. W. J. Bradbury, has during 1907, inspected 24 boats. They were all in good sanitary condition.

There has been no contravention of the “Canal Boats Acts” by any of the boats. On one boat there were the captain and his wife; on a second boat, the captain, wife, and child; and on a third, there were two men and a boy. With these three exceptions the boats were occupied by men only.

All the occupants appeared to be in good health and free from infectious disease.

Temperature and Rainfall.—The Medical Officer of Health submits the following tabular statement, showing the mean temperature and depth of rainfall during each month in the year. The results were recorded at Stalybridge :—

1907.	Temperature.		Rainfall. 12 inches above ground.
	Maximum in Shade.	Minimum in Shade.	
January	42	34	1.79
February	42.5	31	2.12
March	51	35	2.95
April	52	38	1.91
May	61	42	4.02
June	60	48	5.44
July	65	49	2.58
August	63	50	3.11
September	66	48	0.97
October	53	43	4.53
November	49	38	2.68
December	44	36	3.34
			35.44

ALDERLEY EDGE

Urban District.

Medical Officer of Health—DR. G. W. DOWLING.

Population at Census, 1901—2,856.

Estimated Population in middle of 1907—3,060.

Area in Acres—599.

Birth-rate per 1,000 living—18.6.

Death-rate per 1,000 living—10.7.

Death-rate from seven principal Zymotic Diseases—0.

Deaths under one year to 1,000 births—105.

The Urban District of Alderley Edge was formed by Local Government Board Orders, which came into operation on September 5th, 1894, and September 30th, 1895, respectively. The Urban District of Chorley was renamed Alderley Edge, and extended to include a further part of the Civil Parish of Chorley, the part of that parish within the Urban District, being renamed Alderley Edge, by a County Council Naming Order.

The population of this Urban District was 2,856 at the Census in 1901, and the population of the same area was 2,281 at the Census in 1891. The increase in the population during the decennium 1891–1901 was thus 575, that is 25.2 per cent. The estimate of the population made for the middle of the year 1907, is thus not too high.

During 1907, the number of births registered was 57, and the number of deaths registered was 33. There were no deaths belonging to the District which took place outside. The birth-rate was 1.4 below the average birth-rate in 1897–1906, and the death-rate was 0.7 below the average death-rate in 1897–1906.

Six of those who died in 1907 had not completed their first year, and 9 were persons 65 years old and upwards.

There was no death from zymotic disease. Two deaths were due to phthisis, 2 to other tubercular diseases, 1 to cancer, 2 to bronchitis, 1 to other disease of the respiratory organs, 2 to diseases or accidents of parturition, 7 to heart diseases, and 2 to accidents.

Cases of Infectious Disease notified.—Twelve cases of infectious disease were notified during 1907, viz., 3 erysipelas, 3 scarlet fever, 1 enteric fever, and 5 measles. Measles has been notifiable since 1893. The 3 cases of scarlet fever were removed to hospital; the cases of measles were of a mild type.

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Whooping-cough.—There were very few cases in 1907

Enteric Fever.—The only case which occurred could not be traced to any sanitary defect.

Diagnosis of Diphtheria.—The arrangements which were made in 1897 with Professor Delépine, of the Public Health Laboratory, Manchester, for the bacteriological examination of specimens taken from the throats of persons suspected of having diphtheria, have proved very satisfactory.

Antitoxin.—The District Council have authorized the Medical Officer of Health to keep a supply of this, so that if a case of diphtheria should be notified the antitoxin may be used without delay. A supply has accordingly been always ready.

Isolation Hospital Accommodation.—The Bucklow Joint Hospital Board, on which Alderley Edge is represented, have made arrangements for cases of infectious disease, other than small-pox, to be treated at the new Isolation Hospital at Baguley. The same Joint Hospital Board have also arranged for the isolation and treatment of cases of small-pox.

Water-supply.—The water for the District is supplied by the Stockport Waterworks Company. During the year a few complaints were received as to discolouration and hardness. Only a few pumps still remain in use, and samples of water are taken from them at frequent intervals.

Dairies are registered and inspected. They were found in good sanitary condition in 1907. The new regulations have been in force since 1905.

Slaughter-house.—The only slaughter-house in the District has been inspected, and found in good order.

Factory and Workshop Act.—There are in this District no factories, but 32 workshops, viz :—7 bakehouses, 2 livery stables, 10 dressmakers and milliners, 3 boot repairers, 4 builders, 1 tailor, 1 saddler, 3 upholsterers, and 1 motor repairer. In all 56 inspections were made. The only underground bakehouse in the District is not used.

Refuse Removal.—The emptying of ashpits has been undertaken by the Council, and so far has been satisfactory.

Alderley Edge Urban District.

Midden-Privies.—Most of these have been now converted into W.C.'s and dry ashpits.

Sewage Treatment.—The filter beds act efficiently, and the effluent has been satisfactory.

Disinfection.—Clothing and bedding of infectious patients can now be removed for disinfection in a special van belonging to the Bucklow Joint Hospital Board, and disinfected at the Steam disinfector belonging to the Board.

Cemetery.—The new Cemetery has been laid out, and is now in use. It was opened in April.

ALSAGER**Urban District.**

Medical Officer of Health—DR. H. CRUTCHLEY.

Population at Census, 1901—2,597.

Estimated population in middle of 1907—2,641.

Area in acres—2,241.

Birth-rate per 1,000 living—17.8.

Death-rate per 1,000 living—13.2.

Death-rate from seven principal Zymotic Diseases—0.38.

Deaths under one year to 1,000 births—42.

The population of the area which now forms the Alsager Urban District was 1,912 in 1891. At the Census in 1901 the population of this District was 2,597. The increase in the populations during the decennium 1891-1901 was therefore 685, that is 35.8 per cent. The estimate of the population made for the middle of the year 1905 is only 50 in advance of the population estimate for the middle of 1904. The estimate for the middle of 1906 is the same as for the middle of 1904.

The estimate for the middle of 1907 is 59 less than for the middle of 1906.

During 1907 the number of births registered was 47, and the number of deaths registered was 35. The birth-rate was about 6.9 below the average in 1897-1906, and the death-rate was about 2.4 above the average in the same ten years.

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Two of those who died were infants who had not completed their first year, and 16 were persons 65 years old and upwards.

Among the causes of death were 1 from diphtheria, 3 from epidemic influenza, 1 from septic disease, 2 from phthisis, 6 from cancer, 1 from bronchitis, 4 from pneumonia, 3 from heart diseases, 3 to abdominal operations, and 2 to suicide.

Cases of Infectious Disease notified.—There were 19 cases of infectious disease notified, viz., 3 of diphtheria, and 16 of scarlet fever. These were isolated at home, as far as possible.

Isolation Hospital Accommodation.—There are no means, at present, of isolating infectious cases other than small-pox. However, during 1903, application was made to the Local Government Board to issue a Provisional Order forming the Borough of Congleton, the Urban Districts of Sandbach, Alsager, Buglawton, and Biddulph, and the Rural District of Congleton into a united District, for the purpose of the provision, maintenance, and management, for the use of the inhabitants of the united District, of hospital accommodation for infectious disease other than small-pox. The Local Government Board Inquiry with reference to this application, was held at Congleton Town Hall on January 22nd, 1904.

The proposed Joint Hospital District has since been formed, and a suitable site for the hospital has been obtained. During 1907 good progress has been made in the erection of the new hospital, and it is believed that it will soon be completed, and ready for the reception of patients.

Water-supply.—Efforts have been made during the year to meet the pressing demand for an adequate supply of water. A deep boring experiment on the site of the existing well has, with the consent of the Local Government Board, been tried, and, after sinking to a depth of about 365 feet, was abandoned, owing to the large quantity of salt and brine met with. Another attempt to solve the difficulty by sinking a large well about 34 feet deep, close to the present well, and coupling it with the present pump, has been made, but how far this will meet the wants of the District remains to be proved.

The fortunate absence of prolonged dry weather during the past summer, combined with temporary shrinkage of population, have materially diminished the quantity of water required;

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nevertheless, the fact remains, that Alsager must have an ample supply of water to meet its requirements even in a dry summer.

Sewers and Sewerage Disposal.—The Sewerage of Alsager has very little fall, and those portions of the sewers which require flushing from the mains, were flushed as well and frequently as possible under existing circumstances. The Medical Officer of Health on inspection found but little evidence of sewer gas. Very few complaints of effluvia have been received, so that the condition of the sewers may be said to be fairly satisfactory.

The filtration area has had attention during the year. The settling tanks have been emptied from time to time, and their contents carted away. The Medical Officer of Health states that it is impossible to have efficient filtration, owing to the large volume of water that constantly finds its way into the sewers; such water is of small value for flushing purposes, but keeps the land water-logged. Another difficulty arises from the storm-water, and the District are considering how, in future, this may be kept out of the sewers.

The Council are considering the adoption of a system of bacterial treatment of the sewage, and, in connection with this, the renewal of the lease, in a modified form, of the land.

Dairies and Milkshops have been inspected and found in order.

Cowsheds.—These were also carefully inspected and limewashed as required. The drainage, ventilation, etc., are satisfactory.

Slaughter-houses have been regularly inspected. Lime-washing and other sanitary arrangements have been efficiently attended to.

Factories and Workshops have been kept in accordance with the requirements. They have been regularly inspected, and the ventilation, air space, drainage, and sanitary accommodation have been found satisfactory. There are 6 factories, employing in all 23 persons, and 42 workshops employing in all 100 persons.

ALTRINCHAM

Urban District.

Medical Officer of Health—DR. A. GOLLAND.

Population at Census, 1901—16,831.

Estimated Population in middle of 1907—18,256.

Area in Acres—662.

Birth-rate per 1,000 living—25.2.

Death-rate per 1,000 living—12.4.

Death-rate from seven principal Zymotic Diseases—1.2.

Deaths under one year to 1,000 births—115.

The population of this Urban District was 12,440 at the Census in 1891, and 16,831 at the Census in 1901. The increase in the population during the decennium 1891-1901 was thus 4,391, that is 35.3 per cent. The estimate of the population made for the middle of the year 1907 is therefore reasonably low.

In 1907 the number of births registered was 460, and the number of deaths registered was 227. To these should be added the deaths of 8 residents which occurred beyond the District, and from these should be taken the deaths of 11 non-residents which occurred in the District. Thus the total number of deaths was 227. The birth-rate is about 2.8 below the average in the ten years 1897-1906, and the death-rate is 4.4 below the average in the same ten years.

The number of births from the principal zymotic diseases was 22—viz., 9 from measles, 2 from scarlet fever, 2 from whooping-cough, 1 from diphtheria, 3 from enteric fever, and 5 from diarrhoea. There were also 5 deaths from epidemic influenza, 2 from enteritis, 1 from septic disease, 6 from phthisis, 22 from other tubercular diseases, 12 from cancer, 25 from bronchitis, 27 from pneumonia, 1 from alcoholism, 6 from premature birth, 2 from diseases or accidents of parturition, 27 from heart diseases, 4 from accidents, and 3 from suicides.

Among those who died, 53 were under 1 year of age, and 57 were 65 years old and upwards.

Cases of Infectious Disease notified.—There were 48 cases of infectious disease notified, namely, 13 diphtheria, 4 erysipelas, 28 scarlet fever, and 3 enteric fever. Of these 32 cases, 4 diphtheria and 28 scarlet fever were removed to hospital. Two of the scarlet fever cases and one diphtheria case ended fatally.

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The monthly incidence of infectious disease is shown in tabular form below.

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Scarlatina		2	3	2	5	3	2	5	1	3	1	1
Diphtheria	2		2	4		2			3			
Typhoid Fever					1			2				
Erysipelas						1				2		

Whooping-cough is not notified, except by Schools. There were 2 deaths.

Scarlet Fever cases were fairly equally scattered throughout the year, and prompt removal to hospital prevented the spread of the disease.

Influenza was present in a sporadic form throughout 1907. Besides the 5 deaths from the disease, it is no doubt accountable for some of the deaths from pneumonia.

Notification from Schools.—The Medical Officer of Health refers to the help afforded by the system under which heads of Schools notify to him cases of infectious disease. In this way information of cases of chicken-pox, mumps, etc. reached him early. These diseases were prevalent during most of the year.

Diarrhœa caused only 5 deaths, an unusually small number, for which the cool wet summer accounts

Measles was very prevalent during the first half of the year, and continued in epidemic form to the end. There were 9 fatal cases.

Isolation Hospital.—Plans for the new hospital have been before the Local Government Board, and with the exception of a few alterations, have been passed by them. It is hoped that good progress will now be made, and that before long the District will have a satisfactory provision for infectious cases.

Small-pox Hospital Accommodation.—A valuable and economical arrangement has been made with the Manchester

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Corporation, by which they undertake to remove and treat any cases of small-pox that may occur in the Altrincham Urban District.

Bacteriological Diagnosis.—Arrangements have been made with Professor Delépine, of Victoria University, Manchester, for the examination of morbid products in suspected or doubtful cases of diphtheria and typhoid fever.

Diphtheria Antitoxin.—A store of this is now kept by the Medical Officer of Health, and will be given free of charge to Medical Practitioners in the District, requiring it for use among the poor.

Tuberculosis.—The 6 deaths from phthisis recorded in 1907, are equal to the death-rate of 0.32 per 1,000 living. There were 22 deaths from other forms of tubercular disease. The entire death-rate from tuberculosis was equal to 1.53 per 1,000 living.

Disinfection.—Careful disinfection of premises, after infectious disease, has been carried out, including houses in which deaths from phthisis have occurred.

Public Baths.—In the Annual Report for 1901 it was stated that public baths had been opened. The cost was partly met by a sum of money subscribed to do honour to the late Queen's Jubilee, and the baths were handsomely and satisfactorily completed by the District Council. These baths have proved so successful, that it has been decided to increase their usefulness by building another full-size plunge-bath, and not less than 8 slipper-baths. Designs for this addition to the public baths are to be invited from local men.

Housing Scheme.—This scheme has worked successfully for a year, and the houses provided seem to fulfil all that was required.

Water-supply.—This is derived from Manchester and distributed by the North Cheshire Water Company. It has been tested from time to time and found to be satisfactory.

Overcrowding.—Eighteen cases of overcrowding a dwelling-house were dealt with by the Inspector in the course of the year.

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Common Lodging-houses.—There were 45 visits of inspection made to common lodging-houses in 1907. They are, with 1 exception, in a clean sanitary condition, and lime-washed in accordance with the regulations.

Dairies and Milkshops.—All were inspected during the year and found, with 1 exception, in good sanitary state.

Slaughter-houses.—The Inspector made 83 visits to the slaughter-houses. With 12 exceptions they were found to be in clean condition, and the lime-washing was attended to.

Improved Slaughter-houses and Lairages.—In the Annual Report for 1902 it was noted that a loan for providing new slaughter-houses and lairages had been sanctioned, and that the District Council had possession of a suitable site. During 1903 good progress was made. The new Abattoir was completed in 1904, and the District Council now have the regulation of the meat-supply of the District directly within their own control.

Much finishing work has been done to make the slaughter-houses complete, and a credit to the Council.

The New Public Health Act.—The Council has sought permission to adopt the new Public Health Act, which will enable it to carry out various work which is much needed, and only waits the sanction of the Local Government Board.

Nuisance Abatement.—Many nuisances were abated during 1907, a large proportion of the work being done without the serving of formal notices. For the most part notices were served in respect of defective drains, insanitary privies, and back-yards and passages needing paving. Notices were served in respect of nuisances which could not be effectively dealt with otherwise. Two smoke nuisances were reported.

Refuse Removal.—The removal of night-soil and other refuse from ashpits is carried out under the supervision of the District Council's foreman. This work appears to have been efficiently done in 1907.

Sewage Disposal Works.—During 1901 the new works in connection with the extension of the sewage farm were begun, and since then much progress has been made. At a portion of the new works, sewage is being regularly received and dealt with.

Altrincham Urban District.

Factory and Workshop Act.—The provisions of this Act were well attended to in 1907. There were 204 visits of inspection made, and 93 defects were found. Action was taken, and the defects were remedied. There are 35 bakehouses and 161 workshops and 29 workplaces.

The Inspector of Nuisances, Mr. D. C. Moody, who has been relieved of some of his former duties, is now able to give the whole of his time to his work as Inspector, and reports on matters coming under his supervision.

Canal Boats.—During the year 99 visits were made to 77 canal boats. Of these 70 were found to be in satisfactory condition. On 12 boats defects were noticed. The owners were required to remedy these defects, and did so. The cabins of these boats contained registered accommodation for 328 persons. They were occupied by 183 persons, *i.e.*, 136 men, 31 women, and 16 children under 12 years of age.

ASHTON-UPON-MERSEY

Urban District.

Medical Officer of Health—DR. C. J. RENSHAW.

Population at Census, 1901—5,563.

Estimated Population in middle of 1907—6,200.

Area in acres—1,622.

Birth-rate per 1,000 living—22.4.

Death-rate per 1,000 living 13.0.

Death-rate from seven principal Zymotic Diseases—0.96

Deaths under one year to 1,000 births—100.

The Urban District of Ashton-upon-Mersey was constituted early in 1895. This is therefore the Twelfth Annual Report of the Medical Officer of Health. The population of the area forming the Urban District was 4,234 in 1891. At the Census in 1901, the population of the District was 5,563. The increase of the population during the decennium 1891-1901 was thus 1329, that is 31.38 per cent. The Medical Officer of Health estimates that the population has increased by 637 between the taking of the Census in 1901 and the middle of the year 1907.

Ashton-upon-Mersey Urban District.

During the year 1907 the number of births registered was 139, and the number of deaths registered in the District (including 6 deaths of residents registered in Public Institutions beyond the District) was 81. The birth-rate is 0.6 below the mean local birth-rate in 1897-1906. The death-rate is 0.1 below the mean local death-rate in 1897-1906. Only 14 deaths were of infants who had not completed their first year, and of these 4 were due to premature birth. Twenty-seven deaths were of persons above 65 years of age.

Two deaths were due to measles, 2 to whooping-cough, 1 death was due to scarlet fever, and 1 to diarrhœa. Ten deaths were due to tubercular diseases, 7 to cancer, 4 to bronchitis, 5 to pneumonia, 4 to premature birth, and 3 to heart diseases.

Cases of Infectious Disease notified.—There were 182 cases of infectious disease notified, viz. :—1 diphtheria, 5 scarlet fever, 1 enteric fever, 31 whooping-cough, 1 German measles, and 143 measles. No case was during the year removed to the Isolation Hospital.

School Closure.—In May and June the elementary schools had to be closed owing to epidemics of measles and whooping-cough.

Disinfection is carefully carried out when required. In fatal cases of tuberculosis, the premises are disinfected. As this disease is not notifiable, knowledge of cases is rarely obtained by the officials of the Authority, except in the event of death. Otherwise disinfection of rooms during life would be of use to phthisical patients and their friends.

Isolation Hospital Provision.—As Ashton-upon-Mersey is one of the Districts forming the Bucklow Joint Hospital District, infectious cases (including small-pox) can be efficiently isolated and treated.

Bacteriological Examinations.—Arrangements were made in 1899 for having material from suspected cases of diphtheria, enteric fever and phthisis examined at Owens College Laboratory.

Antitoxin has for the past six years been stored for use in cases of diphtheria.

Ashton-upon-Mersey Urban District.

Water-supply.—The water supplied by the North Cheshire Water Company continues of good quality.

Sewer Ventilation by means of up-cast shafts proves a much better way of ventilating than by man-holes at the street level.

Nuisance from Waste Paper.—The cages in the streets for the reception of waste paper have done much to abate this nuisance.

Ashpit Contents.—Householders are requested not to put vegetable matter into their ashpits. Such refuse creates a nuisance, and encourages flies. Owing to the abundant rain in 1907 flies were less common, and the nuisance from dust was not as bad as it has been.

Ashbins are replacing ashpits in many houses, and particularly in small property. Their use is encouraged by the Authority. They are emptied, in the majority of cases, once a fortnight.

Dairies and Cowsheds have been kept under supervision throughout the year, and are in good condition.

New Houses.—During the year 29 plans have been approved by the Council. These were for 116 houses, of which 53 were completed during the year. The whole number of houses certified for habitation during 1907, was 74. There were 41 houses in course of construction at the close of the year.

Sanitary Improvements Effected.—Six houses have been re-drained, 4 other houses have had their drains put in order, and at 5 houses drains have been taken out of cellars. At 6 houses the ashpits have been repaired, and at 3 the privies have been converted into water-closets.

Factory and Workshop Act.—The provisions of this Act have been enforced. The 2 laundries and 24 workshops in the District have been inspected. Two written notices were served requiring the amendment of defects found.

Slaughter-houses were duly inspected in 1907, and found to be in good order and condition.

Ashton-upon-Mersey Urban District.

Cowsheds in the District are in order, except in one or two cases, which are receiving attention.

Refuse Removal.—The work of scavenging is well attended to. The emptying of ashbins has increased enormously in the past 7 years.

Sewage Purification.—A large addition is about to be made to the land used for sewage purification. This is necessary owing to the increase of the population. The willows on the old beds are becoming less healthy, and losing their “purifying capacity.”

HIGHER BEBINGTON

Urban District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—1540.

Estimated Population in middle of 1907—1,612.

Area in acres—699.

Birth-rate per 1000 living—29.1.

Death-rate per 1000 living—19.2.

Death-rate from seven principal Zymotic Diseases—1.2.

Deaths under one year to 1000 births—106.

The population of this Urban District was 1,421 at the Census in 1891, and 1,540 at the Census in 1901. During the decennium 1891-1901 the population increased by 119—that is 8.3 per cent. The estimate of the population made for the middle of the year 1907 is, therefore, not excessive.

During 1907 the number of births registered in the District was 47, and the number of deaths registered in the District was 26. To the latter must be added 5 deaths of persons belonging to Higher Bebington, who died in Public Institutions, outside the District. The birth-rate is 0.6 below the average in 1897-1906 and the death rate is 4.7 above the average in 1897-1906. Five of those who died were infants, who had not completed their first year, and 6 were persons upwards of 65 years old.

Higher Bebington Urban District.

The causes of death include one death from each of the following diseases, viz. :—scarlet fever, whooping-cough, bronchitis, pleurisy and alcoholism. They also include 8 deaths from tubercular disease, 3 from cancer, 3 from pneumonia, 2 from premature birth, and 5 from heart diseases.

Cases of Infectious Disease notified.—There were only 4 cases of infectious disease notified, viz. :—3 cases of diphtheria and 1 case of enteric fever. Two of the diphtheria cases were removed to the Isolation Hospital. All the cases were investigated, and disinfection was duly attended to. Two of the cases of diphtheria were in the same house, in January 1, and the other was in December.

Inspection.—The Medical Officer of Health has visited the District on several occasions during the year, to make inspections, and has advised thereon.

Water-supply.—The District is supplied throughout with water by the West Cheshire Waterworks (deep wells).

Sewerage and Sewage Disposal.—The District is, on the whole, well sewered, and the sewers are flushed as required. There are, however, some outlying houses which require to be connected, a difficult matter, owing to their distance from the sewers. Thus, the removal of excreta, except in the case of a few remote houses, is by water carriage.

Refuse Removal.—Ashes and house refuse are removed by a contractor employed by the District Council. Eighty-seven houses have dustbins, and these are emptied weekly.

Inspector's Report.—Mr. Lloyd, the Inspector of Nuisances, has made a careful and satisfactory Report. He states that during the year, 12 complaints of nuisances were received and dealt with. There were 44 houses, premises, &c., inspected, and 74 re-inspected. Thirteen houses were repaired or cleansed in compliance with the requirements of notices duly served. At 15 the drains were cleansed, repaired, or trapped. Six accumulations of manure were removed.

One new house was built during the year.

Over-crowding.—One case of over-crowding a dwelling-house was reported during 1907, and the nuisance abated.

Higher Bebington Urban District.

Dairies.—The 2 milk-shops and 6 cow-sheds in the District were duly inspected to see that they were kept in order, and lime-washed twice a year. Regulations, made under the Dairies, Cow-sheds, and Milk-shops Orders, came in force on June 11th, 1899.

Factory and Workshop Act.—The only premises coming within the provisions of this Act are a joiner's shop, and a bake-house. The joiner's shop has been inspected. The bake-house was reconstructed, above ground, in 1903. The air space, ventilation, and sanitary conditions, are quite satisfactory.

Slaughter-houses.—There are 2 in the District, which have been inspected, and found in order.

Isolation Hospital Accommodation.—The District is contributory to the Wirral Joint Hospital Board, having thus good accommodation for infectious cases.

LOWER BEBINGTON**Urban District.**

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—8,398.

Estimated Population in middle of 1907—10,307.

Area in Acres—1,051.

Birth-rate per 1,000 living—32.4.

Death-rate per 1,000 living—11.7.

Death-rate from seven principal Zymotic Diseases—1.1.

Deaths under one year to 1,000 births—101.

The population of this Urban District was 5,261 at the Census in 1891, and 8,398 at the Census in 1901. Thus during the decennium 1891-1901, the population increased by 3,182, that is 61 per cent. The estimate of the population made for the middle of the year 1907, is arrived at by adding to the Census population five-tenths of the increase during the decennium 1891-1901. This estimate is probably too low.

During 1907 the number of births registered in the District was 334, and the number of deaths registered in the District was 105. To the latter must be added the deaths of 16

Lower Bebington Urban District.

persons belonging to the District who died outside, viz. :—9 in the Workhouse, 7 in Birkenhead, Liverpool, or Crewe Hospitals. The birth-rate is 2.0 below the average in the years 1897 to 1906, and the death-rate is 0.8 below the average in the same ten years.

Of those who died, 34 were infants under 1 year of age, and 38 were persons 65 years of age and upwards.

The deaths include 12 from the principal zymotic diseases, viz. :—4 measles, 1 whooping-cough, 1 diphtheria, and 6 diarrhoea. There were also 2 deaths from epidemic influenza, 1 from enteritis, 1 from septic disease, 8 from phthisis, 6 from other tubercular disease, 8 from cancer, 10 from bronchitis, 10 from pneumonia, 1 from pleurisy, 2 from other diseases of the respiratory organs, 1 from venereal disease, 5 from premature birth, 16 from heart diseases, and 3 from accidents.

Cases of Infectious Disease notified.—There were 70 cases of infectious disease notified during 1907, viz. :—16 diphtheria, 5 erysipelas, 45 scarlet fever, 2 enteric fever, 1 continued fever, and 1 puerperal fever. Of these 32 were removed to hospital, namely, 9 diphtheria, 22 scarlet fever, and 1 puerperal fever. Prompt removal to hospital, with isolation and disinfection, has prevented any general spread of disease. The cases of infectious disease were distributed over the year.

Small-pox Contacts.—Two small-pox contacts, of whom notice was received from Liverpool, were kept under observation for 14 days, after re-vaccination, but no case of the disease occurred.

Action taken to prevent spread of Infection.—All houses where infectious cases occurred were visited, disinfectants supplied as required, and measures taken to prevent the attendance at school of pupils from these houses. Insanitary conditions, when discovered, were removed, and cases which could not be isolated at home were promptly sent to hospital. As soon as the patients were removed, or had recovered, disinfection of premises, etc., was carried out.

In many cases the paper was stripped off the walls, and burned. Library books found in infected houses were destroyed, and compensation paid when needful. After the puerperal fever case was removed to hospital the bedding was destroyed, and compensation given.

Three houses were disinfected after cases of phthisis.

Lower Bebington Urban District.

Inspection.---The Medical Officer of Health has visited the District from time to time, and advised the District Council and the Inspector on various points of detail. He also attended an inquiry held at Birkenhead by a Local Government Board Inspector, with reference to the proposed Small-pox Hospital at Willaston, and gave evidence on behalf of the District Council as to the danger of spreading infection through the District by transporting cases from Birkenhead. The scheme was subsequently abandoned by Birkenhead Corporation.

Public Elementary Schools.—These have been visited from time to time, and the attention of the Managers has been called to any sanitary shortcomings.

Water-supply.—The District is supplied with good water from the West Cheshire Waterworks (deep wells).

Though this water is very pure as regards freedom from animal or vegetable matter, it has of late become unduly hard.

Arrangements are being made to lay a second large new main from the high lands of Wales into the Wirral Peninsula.

Dairies and Cowsheds.—The cowsheds and dairies in the District have been frequently inspected. Generally, the premises have been well kept. Ten notices were served requiring cleansing or lime-washing, 7 for allowing accumulations of manure, and one notice was served to remedy a dirty condition of dairy premises.

Factory and Workshops Act.—There are 27 workshops on the register, which are visited monthly. Thirteen written notices were served in respect of defects discovered. These defects have since been remedied.

Slaughter-houses.—There are 3 licensed slaughter-houses in the District. These have been inspected regularly, and occasionally the occupiers have needed admonition. The licenses are granted annually.

Four notices were served requiring lime washing, 3 for removal of manure, one notice to put in order a choked drain, and 2 for defective paving. All the notices produced the result required.

Lower Bebington Urban District.

Common Lodging-houses were visited monthly, and found to be well kept. There are 2 in the District.

New Houses.—Mr. Corrie, the Surveyor, reports that 59 new houses were built during 1907 in Port Sunlight, and 2 in New Ferry.

Disinfecting Back-passages.—During the summer the back-passages in the poorer parts of the District were sprayed with a fluid disinfectant twice a week.

Drain Testing.—The apparatus for testing drains by smoke was during the year used for testing the drains of 90 houses; of these 61 were new.

Main-drainage.—In the Report for 1901, it was stated that the main drainage scheme had been completed, and was in operation.

Sewer-flushing.—This has been duly attended to, and sewers are flushed every fortnight.

Refuse Removal.—Ashpit refuse is removed at regular intervals, premises being taken in rotation, by the District Council's servants. The movable bins in use in the new houses at Port Sunlight are emptied weekly.

Inspector's Report.—Mr. Westmorland, the Inspector of Nuisances, has made a very careful and satisfactory Report. He states that house-to-house inspection has been made as far as possible. All houses, in respect of which complaints have been received, have also been inspected, and houses in which infectious disease has occurred. As a result, 301 notices for the abatement of nuisances have been served. In several instances, owners, agents, or contractors, have been met by appointment on the spot. The nuisances discovered or complained of, include 81 caused by choked drains, 43 defective W.C.'s, 21 defective traps, 52 defective pavements, 19 accumulations of manure, and 11 defective house-walls.

Food Inspection.—Mr. Laird, the County Inspector, reports that he submitted for analysis the following food-stuffs:—12 samples of butter, 6 of milk, 2 of ground ginger, and 1 of arrowroot. One sample of butter was found to be adulterated; legal proceedings were taken, and the seller was fined 5s. and 14s. 6d. costs.

Lower Bebington Urban District.

Caravans.—Since the bye-laws regulating caravans have been passed, none have stayed in the District.

Hospital Accommodation.—The District is contributory to the Wirral Joint Hospital Board, having thus excellent accommodation for infectious diseases.

BOLLINGTON**Urban District.**

Medical Officer of Health —DR. D. W. MAIN.

Population at Census, 1901—5,245.

Estimated Population in middle of 1907—5,245.

Area in acres—1,291.

Birth-rate per 1,000 living—21.7.

Death-rate per 1,000 living—12.7.

Death-rate from seven principal Zymotic Diseases—0.9.

Deaths under one year to 1,000 births—79.

The population of the area which now forms Bollington Urban District was 5,335 at the Census in 1891. At the Census in 1901 the population of this District was 5,245. The decrease in the population during the decennium 1891-1901 was, therefore, 90—that is 1.68 per cent.

It is estimated that the population at the middle of the year 1907 was equal to the population enumerated at the Census in 1901.

Bollington is situated at an altitude of from 440 feet to 700 feet above sea-level.

The Village proper lies in a valley running east and west between the Nancy and Nab Hills. The character of the soil and sub-soil is various and difficult to describe. Generally it is sandy, alternating with gravel and clay, and in places is very boggy. To the west it is sandstone.

In 1907 the number of births registered was 114, and the number of deaths registered was 67, of which 9 were of persons belonging to the District who died outside. The birth-rate is 0.7 below the average, and the death-rate is 1.8 below the average, in the same ten years.

Bollington Urban District.

Occupations.—The chief industries of the place are Fine Cotton Spinning and Doubling, Cotton Weaving, Calico Printing, Bleaching, and Paper Staining. Close at hand, too, are Coal Pits, Brickworks, and Stone Quarries.

Rheumatism and chest complaints are, as is to be expected, perhaps the most common complaints to which the inhabitants appear to be liable.

House Accommodation.—The number of inhabited houses is 1,180.

Two houses have been built during the year, and a public-house is in course of erection.

Practically all the older houses are built of stone, whilst more recent ones are of brick with stone frontages.

The number of rooms in the older houses are generally four, two of which are bedrooms; some few are five roomed houses with three bedrooms. Most of the newer houses are built on this plan and have in addition a small scullery, on the ground floor, and a bathroom.

There is a growing demand for houses, especially of the latter class. Unfortunately this is, to a great extent, held in check by the cost of the land and the expense of building. It is much to be deplored, as every family with sons and daughters growing up, requires at least three bedrooms, a fact which none will gainsay.

The spaces at the rear of most of the houses are fairly good. In some, the yards are narrow and confined—some indeed have no back yard at all.

All plans for new buildings have, in the first instance, to be submitted to the Surveyor, who passes them on to the Highway Committee with his remarks, of approval, or otherwise, on them. They must, of course, conform to the Council's Bye-laws, before being accepted and passed.

Infantile Mortality.—Nine of those who died were under one year of age, which is equal to a rate of 79 per 1,000 births. The infant mortality rate for 1907 compares very favourably with that of the last 10 years, which was 123.6 per 1,000. The Medical Officer of Health considers that the continued fall in this rate is in some measure due to the improved sanitary condition of the District.

Bollington Urban District.

The new water-supply, and the introduction of better drainage, have materially assisted to bring about this result, and the Council begin to see some outcome from all the trouble and expense incurred in the introduction of these two schemes—water and drainage—into the village.

There is, however, still plenty of work to be done in improving the surroundings of the houses of the District, and the success attained will be a further incentive to the completion of the sewerage of the village, and to doing away with the privy middens.

The Mill Managers, generally speaking, continue carefully to exclude, for a time, from their work, those who are soon about to be, or who have recently become mothers, and further, the District Nursing Association distributes cards on the care and feeding of infants to any who happen to require them.

Of the deaths amongst infants, 2 occurred from measles, 2 from tubercular troubles, the remainder from convulsions and other causes. There were no deaths from diarrhoeal diseases.

In the Annual Report for 1906 it was stated that the main causes of a high rate of infant mortality are:—

1. The employment in factories of those about to become mothers, and those who have been recently confined and should be nourishing their infants.
2. The infants of factory employed mothers being badly cared for and ill-fed during the hours their mothers are at work.
3. The environment of the infant being insanitary, frequently caused by the storage of refuse and filth close to the house, and the soil about the house becoming polluted through badly paved yards.
4. No proper provision being made for isolation and disinfection.
5. Ignorance of mothers as to feeding and clothing children.

Cases of Infectious Disease notified.—There were no outbreaks of scarlet fever, or of any notifiable disease in 1907.

Bollington Urban District.

Measles and Whooping-cough were prevalent. Measles caused 4 deaths, and whooping-cough 1 death.

School Closure.—Four schools were closed during the year on account of measles and whooping-cough.

Inquests.—There were 3 inquests held during the year, and the verdicts were as follows:—female, aged 44, heart failure; male, 7 months, convulsions, due to meningitis; male, 27, suicide while temporarily insane.

Isolation Hospital Provision.—The arrangements mentioned in last year's report between the Urban District and the Borough of Macclesfield have been definitely completed. Under these the Council have the right to send into the Borough Hospital, at any one time, four cases of infectious disease for isolation and treatment there. The terms on which the arrangement is fixed are as before stated, viz.: (1)—The annual payment by the Urban District Council of £30 for the beds and £15 for the Medical Officer's fees, together with (2)—The payment of £100 to the Borough Council in two yearly instalments of £50 each, towards the cost of enlarging their present hospital.

Isolation Accommodation for Small-pox.—Two beds have been reserved in the Macclesfield Borough Hospital for the treatment of small-pox. The retaining fee is £30 per annum; the charge for one case being £5 5s., and for two at the same time £9 9s. per week.

Disinfection, after cases of infectious disease, is carried out by fumigation with sulphur.

The Medical Officer of Health recommends that chlorinated lime be used generally for the disinfection of premises, or else that formaldehyde lamps be used.

The Borough Council have further, very considerately, met the District Council in the matter of disinfection of clothing and bedding from infected houses, from which patients have been removed to their hospital. They have agreed to this being done free of charge to the District Council.

Adoptive Acts.—During 1899 the District Council adopted (1) part 3 of the Public Health Acts, Amendment Act, 1890, (2) the Infectious Disease (Prevention) Act, 1890,

Bollington Urban District.

with the exception of clauses 6, 8, 9, 10 and 12, and (3) the Private Street Works Act, 1892. These came in force on September 1st, 1899.

Water-supply.—The District depends, as before, for a water-supply on the boreholes at Lowerhouse and Dane Bent, Rainow. The quality continues to give complete satisfaction and the quantity has been sufficient for the year's requirements. Unfortunately the borehole at Dane Bent has been found by the Surveyor to be diminishing in quantity, and the matter has been receiving the attention of the Water Committee. This matter is one of the greatest urgency. There is now a larger amount of water required than ever before in the District.

The situation at the present time is, that with the increased consumption due to more houses taking water for general use, additional baths and water-closets, and water for manufacturing purposes, the supply will be largely insufficient with a normally wet summer, but in the case of a dry summer extremely serious.

During the year one Mill has taken a supply of water for drinking purposes, and seven houses supplies for domestic purposes, two of the latter being new houses.

New Building Bye-laws were passed on December 19th, 1903.

Sewerage and Drainage.—The new main drainage scheme was completed in July last year, and has continued to give satisfaction. It has been without effect on the health of the village. There has not been any complaint during 1907 as to smells arising from streams running through the District. While it cannot be said that the condition of these streams is satisfactory, from a health point of view, there is little doubt that the conditions prevailing have been far better than in any previous year.

A caretaker has been appointed to look after the settling tanks and filter beds at the outfall works.

The Council have, with as much speed as possible, pushed on the connecting up of drains, from private property to the main drain. In cases where the Council had to do the work, it was done promptly. Where the owner was responsible, he has been urged to get the work done quickly.

Bollington Urban District.

The completion of the Sewerage scheme has caused a large amount of work in alterations to house drainage.

There are still many houses on the line of new sewers, the drains from which are not connected, the drainage running direct into the brook, but the work of connecting is being proceeded with.

In the last Annual Report reference was made to the completion of the contract for sewerage and connecting house drains to the sewers, where such work was the duty of the Council, in the Kerridge portion of the District.

Since then the property owners of Kerridge, where the drains were defective, or not connected to any sewer, have so completely carried out their duties, that every house on the line of sewers has been re-drained and connected, the number of these houses being 50.

There are still a few houses at Kerridge where the drainage is not satisfactory, but in these cases a small extension of sewers is necessary, and as this extension will enable sanitary improvements to be carried out at the Wesleyan Day School, the work, it is hoped, will be done directly.

In the Bollington District 30 houses have been re-drained, and connected to the sewers by the owners; the drainage of 13 houses has been diverted by the Council, from the old sewers to the new system.

There are more properties in Bollington District the drainage from which has never been connected to the public sewer, and which it is the duty of the owners to connect, preliminary notices for such work to be carried out have been served.

Sewer Ventilation.—The ventilation of the sewers has been a source of complaint. Indeed, the ventilation of sewers by means of open grating manhole covers at the street surface is a frequent cause of complaint in Bollington and elsewhere. It would appear advisable to substitute for these ventilators upcast shafts, in such situations as to ensure that the foul gases from the sewers will be discharged where they are least likely to do harm. There are at present 15 ventilating shafts connected to the sewers.

Bollington Urban District.

Systematic Inspection.—A beginning in this important matter has been made by the Inspector during 1907. The village has been divided into districts, and he has been asked to report on one, at succeeding meetings of the Health Committee. By this means it is hoped to make the inspection of different premises more regular, and to abate more promptly any nuisance that may arise from time to time.

Smoke Nuisance.—The attention which was given to this nuisance in 1906 has been continued during 1907. The results have been most satisfactory—Managers at the different mills and works take the matter up so thoroughly that complaints are much less frequent than heretofore.

Numerous observations of the emission of black smoke from mill chimneys have been taken, and considerable alterations carried out by the owners have reduced the causes of complaint from this source.

Mills.—The Sanitary arrangements of various mills have been much improved during the year. Three mills have been fitted with W.C's., and another is in course of having them fitted.

The mills provide their own water-supply for flushing purposes.

Schools.—Serious and practical consideration has been given by the Managers to last year's report on the condition of sanitary conveniences at different schools situated within the District. The Managers at Water Street School have not seen their way to fall into line with the others, and adopt the Water Carriage system.

At the schools the closets are flushed automatically with water from the public supply, so arranged as to be easily shut off, by the caretakers simply closing a conveniently placed tap. This is done when the schools are unoccupied.

The conditions at the schools are greatly improved where water-closets have been provided, and the sooner the same conditions are brought about at the other three schools the better for the health of the District.

The Old School.—It ought to be placed on record that the means of escape in case of fire from the main hall are

Bollington Urban District.

not entirely satisfactory. The matter has already been under consideration, and is pressing for attention.

Refuse Removal and Disposal.—While all the newer houses have W.C's. most of the old ones are dependent on privy-middens. These are emptied by the Council's men, and the contents carted away by any farmer who is able at the time to do it.

The removal of the heaps of rubbish and excrement from the roads is more promptly attended to than formerly, but the emptying of the middens is not nearly frequent enough. This is a serious matter, especially when the yard-space is small, or the midden faulty in construction. A very objectionable practice prevails, in spite of all the efforts of the Inspector to put an end to it, viz.:—the emptying of both dry and liquid refuse, by neighbours, into the middens adjacent to their houses. This shows how impossible it is to keep a privy midden sanitary.

It can well be imagined that in hot weather the noxious smells, and the plague of flies, caused by such middens, are highly injurious to health.

House Refuse continues to be removed periodically, by a cart sent round by the Council. It ought to be removed more frequently, as at most houses no receptacle is provided for storage until such time as the cart calls. Unfortunately the recommendation made by the Nuisance Inspector, some two or three years ago, as to the provision of covered bins for this purpose, has not been frequently acted upon. This matter has recently had the attention of the Health Committee called to it, and it is to be hoped that something will shortly be done in this direction.

Where bins have been provided it is now arranged to empty them weekly, the provision of bins having greatly increased the amount of house refuse to be removed.

It has been decided to press the abolition of open ash-pits, and lists of houses where they exist has been prepared. The Central Ward is being dealt with first, and a batch of preliminary notices has been served.

Nightsoil.—In the year there were 1,591 tons, 2 cwts., 2 qrs., of nightsoil removed, the cost of such removal being £99 7s. 7d., for carting, and £56 13s. 4d., for labour in emptying.

Bollington Urban District.

The amounts for the previous year were 1,661 tons, 10 cwts.; carting £103 18s. 8d., and labour £54 14s. 0d.

Nuisances arising from defects to drainage such as defective traps, waste pipe or stopped drains, have been remedied at 20 houses.

The necessary drains for water-closets have been laid at four mills and three schools.

There is thus the drainage from 93 additional houses, four mills, and three schools being dealt with at the sewerage works. The mills, schools, and 42 houses being provided with water-closets. It is very satisfactory to note that the effluent from the works has maintained its position, at, or very near the head of, analyses of effluents from sewage works, in the Mersey and Irwell Watershed.

Water-closets.—The number of houses now fitted with water-closets is 200, against 158 at the end of 1906.

Nuisances arising from defective privies and ashpits at 19 houses have been remedied by improvements which are as good as may be expected from the combined privy and ashpit system. At 42 houses water-closets have been provided, which, from a sanitary point, are infinitely better. They however have their drawbacks, such as liability to freeze, and this winter there have been several cases where owners have been put to a considerable expense, mainly owing to negligence of tenants.

The removal of manure and refuse from mews and stables is a matter requiring attention, perhaps something will be done during 1908 to abate the nuisances which exist.

Cowsheds have been kept satisfactorily and in accordance with the Regulations.

Slaughter-houses were inspected, and were satisfactory. Improvements to the drainage of two slaughter-houses have been carried out, and the buildings have been kept very clean. The meat slaughtered therein has been regularly inspected and found sound.

Factory and Workshop Act.—The Inspector reports that under this Act he inspected 86 factories, and 48 workshops. On 5 premises there was defective sanitary accommodation, and 5 notices were served. In 4 defects were remedied.

Bollington Urban District.

The large bakehouses have been kept in clean and satisfactory condition, but there were 5 cottage bakehouses, which, though very clean, did not comply with the Act as regards limewashing. Of these, 3, including a cellar bakehouse, were discontinued as bakehouses, and the others complied with the requirements of the Act.

BOWDON

Urban District.

Medical Officer of Health—DR. M. DUGGAN.

Population at Census, 1901—2,788.

Estimated Population in middle of 1907—2,800.

Area in acres—850.

Birth-rate per 1,000 living—13.2.

Death-rate per 1,000 living—9.3.

Death-rate from seven principal Zymotic Diseases—0.

Deaths under one year to 1,000 births—54.

The population of this District was 2,792 at the Census in 1891, and 2,788 at the Census in 1901. The decrease in the population during the decennium 1891-1901 was thus 4.

It is estimated that the population has slightly increased since the Census.

The number of births registered in the District in 1907 was 37, and the number of deaths registered in the District was 25. To the deaths must be added the death of 1 resident which occurred at a public institution outside the District. Both birth-rate and death-rate are exceptionally low.

Two of those who died had not completed their first year, and 12 were 65 years old, or upwards.

The deaths include 3 from cancer, 2 from bronchitis, 2 from pneumonia, 8 from heart diseases, and 1 from accident.

Cases of Infectious Disease notified.—There were 9 cases of infectious disease notified, viz.: 2 diphtheria, 2 erysipelas, 4 scarlet fever, and 1 puerperal fever.

Five infectious cases were removed to the Baguley Hospital, and all recovered.

Bowdon Urban District.

Isolation Hospital Accommodation.—As was mentioned in the Annual Report for 1903, the District Council have made arrangements for infectious cases from Bowdon to be taken into the Sanatorium (Isolation Hospital) at Baguley.

Arrangements are being made with the Manchester Corporation for the treatment of any small-pox cases which may occur in Bowdon.

Water-supply.—This appears to be sufficient, and in quality quite satisfactory.

Inspection.—The Medical Officer of Health has inspected the sanitary arrangements of the District from time to time during 1907, and found considerable improvement. This is due to the new system being introduced of having dust-bins (which are emptied every week) and water-closets, in place of middens. It is to be hoped that the sanitary accommodation of all houses will shortly be of the improved sort. The property in Vicarage Lane (complained of in previous Annual Reports) has been put in order.

Dairies and Cowsheds have been inspected. They are, as a rule, clean and well kept, and properly ventilated.

Refuse Removal.—Ash-pits, etc., are regularly emptied by contract. The contractors perform their work satisfactorily.

The Sewage Farm appears to be kept in fair working order.

BREDBURY AND ROMILEY

Urban District.

Medical Officer of Health—DR. F. CANT.

Population at Census, 1901—7,185.

Estimated Population in middle of 1907—8,518.

Area in acres—3,986.

Birth-rate per 1,000 living—21.1.

Death-rate per 1,000 living—16.3

Death-rate from seven principal Zymotic Diseases—1.6.

Deaths under one year to 1,000 births—183.

By Local Government Board Order, No. P. 1,711, which was confirmed by Local Government Board Provisional Orders Confirmation (No. 11) Act, 1901, and came into operation on November 9th, 1901, part of the Civil Parish of Bredbury, in the Urban District of Bredbury and Romiley, was added to the Civil Parish and County Borough of Stockport. The area of the Urban District of Bredbury and Romiley and of the Administrative County of Chester was thus reduced by 192 acres, inhabited by 20 persons.

By another Local Government Board Order which came in force on September 29th, 1902, a large portion of North Brinnington was added to Bredbury and Romiley District. This addition consists of 451 acres, and has an estimated population of 120. It is situated on the north-west border of Bredbury, and extends down to the River Tame, which bounds it on the west and north. It consists almost entirely of farm land, the houses (20 in number) being much scattered. The ground is generally level, but slopes down to the river at the edge. As the added portion of Brinnington adjoins Bredbury, and has been added to the same registration area, it will, for the purposes of this Report, be taken as part of Bredbury. The area and estimated population of Bredbury and Romiley are, therefore, as follows:—

Bredbury	...	2,797	acres	...	estimated population	5,372
Romiley	...	1,189	„	...	„	2,596
		<hr/>				<hr/>
		3,986				7,968

There are separate registration areas for Bredbury (including Woodley and Brinnington) and Romiley.

The estimate of the population made for the middle of the year 1907, is based upon the number of occupied houses at that time, and assumes that the number of persons per house will be the same as at the Census in 1901.

Bredbury and Romiley Urban District.

The estimated population of Bredbury in the middle of 1907 is 5,724, and the estimated population of Romiley in the middle of 1907 is 2,794.

In Bredbury there were 91 births registered, and 65 deaths, and in Romiley there were 89 births and 68 deaths. The number of births in the whole District was therefore 180, and the number of deaths in the whole District was 133. To these deaths must be added the deaths of 6 persons which occurred in public institutions outside the District, making a total of 139.

The birth-rate for 1907 is about 2.9 below the average for the 10 years 1897 to 1906, and the death-rate is 0.2 above the average for the same 10 years.

Thirty-three of those who died were infants under 1 year of age. The following were the causes of death :—Six whooping-cough, 5 gastritis, 5 congenital defects, 4 debility, 3 bronchitis, 2 premature birth, 2 tubercular meningitis, 3 convulsions, 1 asphyxia, 1 mumps, and 1 heart disease.

Cases of Infectious Disease notified.—There were 72 cases of infectious disease notified, viz. :—51 scarlet fever, 13 diphtheria, 5 erysipelas, 2 enteric fever, and 1 puerperal fever. Of these 10 were removed to hospital, namely, 8 scarlet fever, 1 diphtheria, and 1 enteric fever. Of the 51 cases of scarlet fever none died.

School Closure.—Measles, mumps, and whooping-cough, none of which are notifiable, prevailed to a considerable extent early in the year, and again in June and July. On each occasion the Schools at Romiley and Hatherlow were closed for about 3 weeks, thoroughly cleaned and aired. The epidemics were in consequence soon at an end.

Sanitary Accommodation.—Some progress was made with the conversion of ashpit-privies into W.C.'s, but there are still far too many of the old-fashioned privies left. The intermittent and insufficient water-supply makes it impossible to complete the work of conversion at present.

New Requirement as regards Sanitary Accommodation.—The District Council now insists that all new houses built must be provided with water closets.

Isolation Hospital Accommodation.—An agreement has been made with the Hyde Corporation, under which 4 beds are retained in the Isolation Hospital, with additional beds if

Bredbury and Romiley Urban District.

required. The Medical Officer of Health believes that by this arrangement the District will be amply provided with accommodation for infected persons, who cannot be isolated at home.

Action taken to prevent spread of Infection.—As soon as the Medical Officer of Health was made aware of any case of infectious disease, he visited the house, made inquiries as to the probable source of infection, and took steps to prevent the spread of disease. The disinfection of clothing, and of the premises was attended to during, and after, sickness, and all children in the house were prevented from attending schools and meetings. Helpful information has often been given by school teachers and by attendance officers. The premises and surroundings were inspected, and any defects noticed were remedied.

Disinfecting Rooms has been done by means of the formaldehyde lamp. This method has been in use since 1901, and the Medical Officer of Health thinks highly of it. He believes it to be more efficient and less offensive than disinfection by sulphur, which used to be relied on. In this way also the rooms (and clothing) of patients suffering from phthisis have been disinfected.

Bacteriological Diagnosis.—Arrangements have been made with Professor Delépine, of the Victoria University, Manchester, for the examination of morbid products in suspected or doubtful cases of diphtheria, or typhoid fever. The medical attendant forwards the sample, the Council pay the fee, and the result is made known to the Medical Officer of Health. Regret is expressed that more use is not made of this help to diagnosis.

Water-supply.—There is a good supply of wholesome water to the District, obtained through Stockport Corporation and Hyde Corporation, from the Woodhead Reservoirs. During recent years there has been a considerable extension of the service pipes to new property. On several occasions during 1907 the pressure was not sufficient to yield a constant supply, especially in the high-lying parts of the district, and many complaints have been received of scarcity of water. The Council have engaged a water engineer to advise them as to how this defect may be remedied, and it is hoped that a suitable plan may soon be agreed upon.

Dairies, &c.—Regulations under the Dairies, Cowsheds, and Milkshops Orders were made by the District Council on May 25th, 1898. The dairies and cowsheds in the District are visited

Bredbury and Romiley Urban District.

by the Inspector once a quarter. He reports them to be generally satisfactory.

The Factory and Workshop Act has had attention. Inspection has been made, and the required particulars have been duly entered in the books provided for the purpose. Every factory, workshop, or workplace has been inspected, especially with regard to cleanliness, air-space, ventilation, draining, and sanitary conveniences. Where anything has been found unsatisfactory, improvements have been made. Houses and places where home-work has been carried on, have been kept under observation, and no home-work has been allowed on premises where infectious cases were housed. Lists of out-workers have been made, and where out-workers have resided in other Districts, lists have been forwarded to their District Councils.

The Registers have been produced to and examined by the Sanitary Committee of the Council.

The Sanitary Inspector reports that he is satisfied with the means of escape in case of fire at all places where workpeople are employed, and that they are suitable to the buildings and number of employees.

Slaughter-houses.—There are 7 in use in the District. All have been inspected and are reported on satisfactorily.

All objectionable matter is removed as soon as possible after slaughtering. Plans for a new slaughter-house have been passed.

Main Drainage and Outfall Works.—The sewerage of the greater part of the District is now complete. The Outfall Works for treating the sewage of Bredbury are at Wharf Meadow, Lower Bredbury. There are now upwards of 700 houses drained to these works. Romiley has separate Outfall Works, and to these about 800 houses are drained. Both works have been favourably reported upon, when samples of effluent have been taken for analysis. The Council's 9 in. sewer has been extended 350 yards, in Guywood Lane, Bunker's Hill, and Chadkirk.

New Houses.—Ten new houses were erected in Bredbury and 23 in Romiley, and the following plans were passed :—53 houses, 16 miscellaneous buildings, 4 extensions to works, 1 new cow-house, and also plans for a new Council School to be erected on Barrack Hill, Bredbury, and for a new Infants' School at Woodley British School.

BROMBOROUGH

Urban District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—1,891.

Estimated Population in middle of 1907—2,029.

Area in acres—1,678.

Birth-rate per 1,000 living—26.6.

Death-rate per 1,000 living—14.8.

Death-rate from seven principal Zymotic Diseases—0.98.

Deaths under one year to 1,000 births—185.

By a Local Government Board Order, which came into operation on September 30th, 1895, the Urban District and Civil Parish of Bromborough were extended to include part of the Civil Parish of Poulton-cum-Spital.

The population of the area which now forms the Bromborough Urban District was 1,740 at the Census in 1891. At the Census in 1901 the population of this District was 1,891. The increase in the population during the decennium 1891-1901 was therefore 151, that is 8.67 per cent. The estimate of the population made for the middle of the year 1907 is therefore not in excess.

In 1907 the births registered in the District numbered 54, and the deaths registered in the District numbered 29. To the deaths should be added the death of a person belonging to the District, which took place elsewhere. The birth-rate is 3.5 above the average in the District in 1897-1906 and the death-rate is 3.5 above the average in the District in 1897-1906.

Ten of those who died were infants under a year old, and 9 were persons 65 years old and upwards.

The deaths include 2 from whooping-cough, 2 from phthisis, 3 from cancer, 2 from bronchitis, 2 from premature birth, and 4 from heart disease.

Cases of Infectious Disease notified.—There were 8 cases of infectious disease notified, viz. :—4 diphtheria, 3 scarlet fever, and 1 erysipelas. These 4 cases of diphtheria, and 1 of the cases of scarlet fever were from Bromborough Village. One case of erysipelas, and 2 of scarlet fever were from Bromborough Pool Works. The 4 cases of diphtheria were removed to Wirral Joint Hospital, and 1 of the cases of scarlet fever was removed to the hospital at Pool Works.

Bromborough Urban District.

There was at no time any general spread of infection, the removal of patients to hospital having had the effect desired. Every case of infectious disease notified was duly investigated, disinfection was attended to, and action was taken for the discovery and remedy of sanitary defects on premises.

Inspection.—The Medical Officer of Health has visited the District from time to time, and advised the District Council and the Inspector on various matters of detail, in connection with the ordinary sanitary work.

Sewers and Sewage disposal.—The District is well provided with sewers, which are well ventilated and regularly flushed. The sewage is treated by means of septic tanks and bacteria beds at the Dibbinsdale and Tile-yard out-falls. The sewers at Bromborough Pool and the Magazine Village deliver into tidal water. Bromborough Village is sewered throughout.

At the Pool Works Village all the houses and cottages have water-closets, and the sewers are maintained in good order.

Refuse Removal.—The District Council contract for the emptying of ash-pits and privies monthly, and for the emptying of ash-bins as frequently as required. At the Pool Works Village movable bins are provided, which are emptied weekly.

Water-supply.—The Pool Works Village is supplied with water from Price's Patent Candle Co.'s deep wells. The remainder of the District is supplied with good water from the West Cheshire Waterworks (deep wells).

Inspector's Report. — Mr. Howard, Inspector of Nuisances, has made a careful and satisfactory Report. During the year 7 complaints have been received and remedied, 420 houses have been specially inspected, and 320 re inspections made. In 10 cases Notices have been served for sanitary amendment of houses and premises, and have been complied with. There were no cases of overcrowding. Twelve houses have been repaired, cleansed, etc., 7 have been disinfected after infectious disease. In 18 cases defective house drains have been dealt with. Three of these involved taking up and re-laying the drains. At 4 houses drains have been re-arranged, and all were tested before being covered up. Six drains were provided with means of ventilation. Four defective water-closets have been rectified, and 4 privies converted into water-closets. Six ashpit privies have been repaired, 1 new dust-bin provided, and 2 repaired. No new houses have been erected, but 4 were enlarged.

Bromborough Urban District.

Dairies and Cowsheds.—There are seven registered dairies and cowsheds inspected. They are periodically white-washed and kept in cleanly condition. The cowsheds are lime-washed twice a year.

Slaughter-house.—One slaughter-house has been inspected, and found in order.

Factory and Workshop Act, 1901.—Ten workshops or workplaces, including 3 bake-houses were inspected during the year, and found in order. The drainage and sanitary arrangements at Bromborough Pool Works were also inspected and found satisfactory.

BUGLAWTON**Urban District.**

Medical Officer of Health—DR. P. M. DAVIDSON.

Population at Census, 1901—1,452.

Estimated Population in middle of 1907—1,452.

Area in acres—2,911.

Birth-rate per 1,000 living—24.8.

Death-rate per 1,000 living—16.5.

Death-rate from seven principal Zymotic Diseases—0.

Deaths under one year to 1,000 births—55.

The population of this Urban District was 1,382 at the Census in 1891, and 1,452 at the Census in 1901. The increase in the population during the decennium 1891—1901 was thus 70, that is 5 per cent. The estimate of the population made for the middle of the year 1907 assumes that the population has not increased since the Census.

In 1907 the number of births registered was 36, and the number of deaths registered was 24. One person belonging to Buglawton died at the Workhouse at Arclid. The birth-rate is 5.6 below the average in the District in the ten years 1897-1906, and the death-rate is 2.2 above the average in the District in the same ten years.

Among the deaths recorded was 1 from enteritis, 1 from phthisis, 1 from cancer, 3 from bronchitis, 1 from premature birth, 3 from heart diseases, and 1 from accident.

Buglawton Urban District.

Infantile Mortality.—The infantile mortality death-rate was very low in 1907. Only 2 children died in their first year; this is equal to 55 per 1,000 births. In the 10 years 1897-1906, the infantile death-rate was 112 per 1,000 births. One of the two was prematurely born, and the other died of enteritis.

Cases of Infectious Disease notified.—Only 3 were notified, viz.: 1 diphtheria and 2 scarlet fever. None were removed to hospital. The diphtheria case could not be traced to anything insanitary in the dwelling-house. One case of scarlet fever was that of a child, infected while staying in Manchester, but living at Timbersbrook. The second case was quite unconnected with the first, and was that of a man in Rainow. The source could not be traced, and it appeared doubtful whether it was really scarlet fever at all.

Diarrhœa.—There was a slight outbreak in September, but no fatal cases occurred.

Influenza was epidemic in a rather severe form early in the year; only 1 death was registered as due to it, but doubtless it was accountable for some deaths ascribed to bronchitis, or pneumonia.

Disinfection.—Every house in which a case of infectious disease occurred was disinfected.

Isolation Hospital Accommodation.—Early in 1902, the Buglawton District Council, in conjunction with the Town Council of Congleton, and several neighbouring District Councils, arranged provision for the isolation of small-pox cases at Arclid.

There is no hospital accommodation for cases of infectious disease other than small-pox.

Dairies and Cowsheds.—55 inspections were made, and 7 notices served for the following defects, 1 defective drainage, 4 want of cleanliness, 2 premises in bad repair.

Factory and Workshop Act.—There were 13 premises inspected under the Act, viz.:—3 factories, 9 workshops, and 1 bakehouse. Three notices were served, and all defects were remedied. They were, want of cleanliness, and failure to affix an abstract of the Act.

Buglawton Urban District.

Sewerage Scheme and Sewage Treatment.—The terms upon which the Borough of Congleton is to undertake the treatment of the Buglawton sewage have been at last settled, and no doubt the sewerage of the villages will now be carried out, without unnecessary delay.

The Water-supply has been abundant and of good quality throughout the year.

Ashpits, &c.—The ashpits and privies are emptied regularly, and kept in as good order as practicable.

Inspection.—The Medical Officer of Health has visited the whole District more than once in the course of the year. The Sanitary Inspector has made a great many inspections of insanitary houses, and succeeded in effecting much improvement, although much difficulty was experienced where questions with regard to drainage arose, owing to the absence of main drainage.

CHEADLE & GATLEY

Urban District.

Medical Officer of Health—DR. J. H. GODSON.

Population at Census, 1901—7,916.

Estimated Population in middle of 1907—9,433.

Area in acres—5,086.

Birth-rate per 1,000 living—21.6.

Death-rate per 1,000 living—10.8.

Death-rate from seven principal Zymotic Diseases—0.6.

Deaths under one year to 1,000 births—76.

This Urban District was constituted by a Local Government Board Order, which came into operation in August, 1886. It was formed by uniting Stockport Etchells (including Gatley) with part of Cheadle (including Cheadle Hulme, Outwood, and part of the former parishes of Cheadle Bulkeley and Cheadle Mosley). The area of these two portions of the District and their Census population in 1901 were as follows :—

	Area in Acres.	Census Population.
Stockport Etchells ...	1,572	1,776
Part of Cheadle ...	4,240	9,044
	<hr/> 5,812	<hr/> 10,820

Cheadle and Gatley Urban District.

By Local Government Board Order, No. P. 1,711, which was confirmed by Local Government Board Provisional Orders, Confirmation (No. 11) Act, 1901, and came into operation on November 9th, 1901, part of the Civil Parish of Cheadle and the Urban District of Cheadle and Gatley was added to the Civil Parish and County Borough of Stockport. The area of the Urban District was thus reduced by 726 acres, and the Census population was thus reduced by 2,904 persons. The figures at the date of the Census for the reduced areas were therefore as follows :—

Area in Acres	...	...	...	...	5,086
Census Population (1901)	...	...	...	...	7,916

The population of the whole District includes 140 enumerated at the Barnes Convalescent Hospital (Branch of the Manchester Royal Infirmary) and 431 enumerated at the Manchester Royal Lunatic Hospital, including St. Anne's Hospital, Brookside House and Beech House. The Census population, exclusive of these institutions, was therefore 7,345.

It is estimated that from the date of the Census to the middle of the year 1907, the population was increased by 1,517. The entire population of the District at midsummer, 1907, was thus 9,433. The population of the Barnes Convalescent Hospital was 147, and the population of the Manchester Royal Lunatic Asylum was 528. The population of the Warehousemen and Clerks' Schools was 250. Deducting these, the Medical Officer of Health calculates his birth-rate and death-rate on a population of 8,508.

During 1907 the number of births registered was 184, and the number of deaths registered in the District, (excluding 58 deaths at public institutions) was 92. Owing to the area of the District having been much reduced in 1901, the statistics for the last 6 years cannot be fairly compared with those for the years prior to 1902. However, taking the figures for what they are worth, the birth-rate for 1907 is about 2.3 below the average in 1897-1906, and the death-rate is 2.4 below the average in the same 10 years.

There were 5 deaths from the principal zymotic diseases, viz. : 3 measles, 1 whooping-cough, and 1 diphtheria. There were also 3 deaths from epidemic influenza, 1 from enteritis, 1 from puerperal fever, 4 from septic disease, 7 from phthisis, 7 from other tubercular diseases, 3 from cancer, 12 from bronchitis, 18 from pneumonia, 1 from other disease of the respiratory

Cheadle and Gatley Urban District.

organs, 1 from alcoholism, 4 from premature birth, 16 from heart diseases, 2 from accidents, and 2 from suicide.

Infant Mortality.—Fourteen of those who died were under 1 year old. This is equal to 76 per 1,000 births.

The District Medical Officer of Health draws attention to a circular letter issued by the County Medical Officer in April, and states that, with one exception, the recommendations made therein are having attention locally. The exception is recommendation 6, which suggested that steps should be taken to provide a female Sanitary Inspector or Health Visitor to instruct working mothers as to the feeding and care of infants and young children. This work appears to be largely done by district visitors and nurses.

Infectious Disease notified.—There were 39 cases of infectious disease notified, viz. : 10 diphtheria, 7 erysipelas, 20 scarlet fever, 1 enteric fever, and 1 puerperal fever. Of these 13 cases were sent to hospital, namely : 2 diphtheria, 1 erysipelas, and 10 scarlet fever.

Scarlet Fever.—Of the cases notified 2 occurred in the Barnes Convalescent Hospital and 1 at the Warehousemen and Clerks' Schools. Of the 8 cases in Cheadle, 3 were in one family, and it appeared that one child had contracted the disease at a school outside the District. The attack was so mild that it was only discovered when the patient was peeling, and two other children had been infected. Two cases in another family could only be traced to infection from cases of "sore throat" in the same street. At Cheadle Hulme 3 children were infected from Stockport, and a third was away on a visit, and contracted the disease while absent. The other cases were all very mild. Eight cases were sent to Baguley Sanatorium, and 2 to Monsall Fever Hospital.

Enteric Fever.—One case was notified in the District proper. On receiving the notification, the Medical Officer visited the house and ascertained that the patient had been ill for some time and had been away, where he was thought to have contracted the disease. An examination of the blood in this case, for the Widal reaction, gave a negative result.

This is the first case that has been notified in the District proper for three years, and this may be accounted for by the fact

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that the means of diagnosis have so improved that cases which formerly were notified as enteric fever, owing to their suspicious symptoms, are more accurately diagnosed.

Three specimens of blood were sent to be examined for the Widal reaction, and in each case the result was negative. In each of these cases all the clinical symptoms closely resembled those of enteric fever.

Diphtheria and Membranous Croup.—Eleven cases were notified, as compared with 6 in the previous year; of these 7 occurred in Cheadle, 2 in Cheadle Hulme, and 2 in Stockport Etchells. One case proved fatal. Of the 7 cases in Cheadle, 6 occurred between the end of July and the second week in September; 3 of these occurred in one street and at the same time. The Medical Officer of Health made very careful inquiries, but could find no common cause of infection, such as the milk, but there had been several cases of sore throats. They all occurred during the very wet weather; the street is always strewn with decaying vegetable and animal refuse, and at the end of the street is a tip for dry rubbish. The backs of the houses are very damp, and complaints were made about a stench arising from one or two of the yards where animals and fowls were kept. In all cases Antitoxin was injected, and with very beneficial results. Two of the remaining cases occurred in a house in another street; here it was impossible to trace the exact origin of the infection. In another instance there had been a suspicious case of sore throat which had only just recovered; this case would probably have been fatal, but for the early injection of Antitoxin. Of the two cases in Stockport Etchells, one patient was a small delicate child, aged 3 years. She had only just returned home from a visit when symptoms of the disease shewed themselves. A bacteriological examination of the swab taken from the case confirmed the diagnosis; the case proved fatal. The other case was of a very mild type, and a bacteriological examination gave a negative result. Of the two cases in Cheadle Hulme, one patient contracted the disease outside the District; Antitoxin was used, and a bacteriological examination was also made of a swab. In the other case it was impossible to trace any source of infection.

In three cases only were bacteriological examinations made of swabs taken from the throat of patients, and in only one of these cases was a positive result obtained.

Cheadle and Gatley Urban District.

Puerperal Fever.—One case was notified of puerperal septicaemia. The patient had been very ill and weak for a long time before her confinement. This case proved fatal. All possible precautions were taken to prevent any further spread of the infection.

Measles.—At the end of February there was a very sudden and severe outbreak of measles among children attending Cheadle Hulme Schools. The first case was in the Infant School on February 24th, and in two days only 10 infants were in attendance out of an average of 44. The Infant School was therefore closed for three weeks. The disease then spread to the Mixed Schools, and at the end of three weeks the attendance was 50 per cent. below the average. These schools were therefore closed for three weeks, and the Infant School continued closed for a further period of three weeks.

The disease was of a rather severe type; in many cases there were complications, and three cases proved fatal.

The Sunday Schools in Cheadle Hulme were also closed while the Day Schools were closed, and precautions were taken to prevent the disease spreading to the Warehousemen and Clerks' Schools.

The Medical Officer of Health was requested to draw up a Circular, calling the attention of parents to the symptoms of the disease, and advising them how to check the spread of infection. This circular was distributed to every house, and ran as follows:—

CHEADLE & GATLEY URBAN DISTRICT COUNCIL.

PRECAUTIONS AGAINST MEASLES.

1. Measles is a very fatal disease, and also very highly infectious, especially in the early stage for several days before the rash appears. The early signs of the disease are coughing, sneezing, and redness of the eyes, with some degree of illness. These symptoms generally begin 10 days after the person has been exposed to infection, and usually 4 days after these symptoms begin the rash appears, which commences on the face, neck, and arms, and takes two or three days to come out. When measles have occurred in a school, coughing alone should be suspected.

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2. A child at school with such marks of illness should be at once sent home, and the teachers, particularly in the Infant Department, should be on the look-out for the first signs of illness if measles has made its appearance in the school or neighbourhood. The occurrence in a school of any catarrhal illness in a child, if measles had made its appearance in the school, should be considered sufficient reason for sending the child home till the nature of the illness has become plain.

3. A child suffering from measles should not be allowed to return to school until four weeks have passed after the appearance of the eruption.

4. Anyone attacked by measles should, if possible, be placed in a separate room upstairs with a good fire burning in the room, and the window open sufficiently to admit fresh air without allowing the room to get cold. The bed should be placed in that portion of the room not lying between the window and the fire, in which there is least draught. In summer the fire should not be large, but should not be absent. Where a separate room cannot be provided the same procedure should be carried out.

5. In view of the high mortality from the disease, parents are advised in every instance to seek medical advice.

6. The children at home not attacked must not go to school or other place of meeting for three weeks after the appearance of the eruption in the first child, and, if subsequent cases occur, not until three weeks after the appearance of the eruption in the last child attacked.

7. Where a case of measles has occurred in a house, a careful outlook should be kept on the other children, so that, on the first appearance of illness, they may be kept at home and properly treated.

8. When a child at any house is suffering from measles, no neighbour's child or neighbour accompanied by a child must be admitted, nor should the child ill with measles be allowed to play with other children for a month after the appearance of the rash.

9. DISINFECTION.—Before the child attacked returns to school the following measures should be carried out. All articles of clothing worn by the sick child, and the bedding and hangings of the sick room should be washed and put out to air for some days. All washable articles of furniture in the room should be washed. The walls of the room, if papered, should be cleaned

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dow with dough, the dough being at once burned. If not papered, the walls should be lime-washed. In all cases the ceiling should be lime-washed. The floor should be thoroughly scrubbed. The window should be left open for several days, and the window curtains removed so as to admit in as much light as possible. The skin of the child who has been ill should be thoroughly cleansed by several washings with soap and warm water.

W. HASLAM CROSS,
Chairman, Sanitary Committee.
JOHN H. GODSON, M.B., B.C., D.P.H..
Medical Officer of Health.

Council Offices,
Cheadle, Manchester.

Chicken-pox.—Only a very few isolated cases were notified during the year.

Whooping-cough.—In July several cases were reported among the children attending the Cheadle Hulme Day Schools. The Medical Officer of Health visited the schools on several occasions, and asked the headmaster to send home any child with a suspicious cough, which he did, and so prevented the disease becoming extremely prevalent.

In Outwood and Long Lane the disease was prevalent in November and December. In November so many children were away from the Long Lane Day School that the Council closed the school for 6 or 8 weeks.

One death was registered as due to whooping-cough and its complications.

Action taken with reference to Infectious Disease.—As soon as a case of infectious disease is notified the Medical Officer of Health at once visits the house, and, with the Medical Practitioner in attendance, and the help of the Inspector, takes all possible precautions to prevent the spread of infection. When the Practitioner in attendance on the case reports that the house is ready for infection, it has been usual to fumigate it with sulphur or formaldehyde. This is the only means available at present, and is not reliable. Bedding and articles of clothing are sometimes sent to the Stockport Disinfecting Station, to be disinfected by steam; but this method of dealing with infectious material is expensive and inconvenient.

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A Disinfecting Apparatus needed.—To insure that bedding and clothing are thoroughly disinfected, they ought to be disinfected by steam. A steam disinfecter is greatly needed, and the Medical Officer of Health (who presented a Special Report upon the subject in February, 1898) hopes that the District Council will obtain one for the use of the District.

Occasionally bedding and articles of clothing have been sent to Stockport to be disinfected by steam, but this cannot be done as often as ought to be owing to the great expense and the difficulty of sending them down.

Bacteriological Examinations.—Arrangements have been made with Professor Delépine, of the Owens College Public Health Laboratory, for having material from doubtful or suspected cases of enteric fever and diphtheria examined bacteriologically. This means of confirming the diagnosis has proved extremely useful, although not so many specimens were sent as in 1906. Six specimens were sent, as compared with 15 in the previous year, to be examined, 3 of suspected typhoid blood for the Widal reaction, and 3 swabs from suspected cases of diphtheria. The results are set out in the following table :—

Diphtheria	positive	1,	negative	2.
Typhoid Fever.....	„	0,	„	3.

Influenza.—This disease was very prevalent at the beginning, and again at the end, of the year. In all three deaths from the disease occurred.

Phthisis and other Tubercular Diseases.—The number of deaths registered as due to phthisis and other tubercular diseases was 14 as compared with 13 in the previous year. Five deaths occurred at the public institutions. The death-rate for the District proper per 1,000 living per annum was 1.05 ; as compared with 0.97 in 1906. The apparent increase may be explained by the fact that patients in the last stages of the disease come out from the towns and reside here with a hope of receiving great benefit from the purer air.

Isolation Hospital Accommodation.—In 1903, the District Council of Cheadle and Gatley made an arrangement with the Withington Urban District Council for admission of cases of scarlet fever, diphtheria, and enteric fever, into the Baguley

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Sanatorium. Three beds were retained, which appeared quite sufficient for the needs of the District. When Withington was included within the area of the Corporation of Manchester, an agreement was made with the Corporation for three beds, as before, to be retained at Baguley Sanatorium, for the use of patients from Cheadle and Gatley.

The District Council have also, jointly with Heaton Norris Urban District Council, erected an Iron Hospital, of eight beds, on the vacant land near the Sewage Outfall Works, for cases of small-pox. Although quite ready for the reception of patients it has not been used.

The Barnes Convalescent Hospital, by agreement, send their infectious cases to the Monsall Hospital, and the Warehousemen and Clerks' School till the beginning of 1905 used their own Sanatorium. They then made arrangements for their scarlet fever cases to be admitted into the Baguley Sanatorium.

Inquests.—Eight Inquests were held during the year, as compared with nine in the previous year. The verdicts were:—

In two cases...Accidental death.

„ One „ ...Asphyxia from Accidental Drowning.

„ One „ .. Asphyxia from Suicidal Drowning.

„ One „ ...Death due to Opium poisoning.

„ One „ ... „ „ Bronchitis (P. M. made).

„ One „ ... „ „ Syncope.

„ One „ ... „ „ Heart Failure, accelerated by falling accidentally down and fracturing the thigh.

Water-supply.—The supply is from the Stockport Corporation Waterworks, and is sufficient for the needs of the District, except during a spell of dry weather, when the supply is generally curtailed. The supply was curtailed all over the District during September for about three weeks. At times the water is discoloured and turbid and hardly fit for domestic purposes, and at times it is very hard.

One sample of well-water was taken and submitted for analysis. The Analyst reported it not fit for domestic purposes; in this case instructions were given to close down the well. One house was supplied with town's water.

Cheadle and Gatley Urban District.

Pollution of Rivers and Streams.—No complaint was received of smell from Micker Brook. In April a complaint was made of a nuisance arising from a stream near one of the public institutions. Steps were immediately taken for the abatement of the nuisance.

New Houses.—During the year there were fewer new houses built and occupied than in the previous year, and these were mostly small villas or semi-detached houses, and situated in Cheadle Hulme. A few cottages were built in Cheadle. They have all complied with the requirements of the Council's Bye-laws.

As mentioned in previous Annual Reports, Cheadle Hulme is growing rapidly, and several of the old cottages are too dilapidated for human habitation. The want of suitable cottages for the working class is becoming more acute each year. Five old houses were closed as unfit for human habitation.

Improvements.—No new streets have been paved or channelled, but plans are being drawn for two or three which are in a very bad condition.

There are still several back passages in Cheadle which require sewerage, paving and channelling.

Schools.—The Medical Officer of Health inspected the elementary schools from time to time, and found the sanitary arrangements satisfactory, and the playgrounds dry and well drained; one playground is much too small and one playground has been covered with fine gravel.

Schools have been frequently visited, at the request of the Masters, to examine pupils suspected of being infected, when any infectious disease is prevalent.

Head Masters of Schools have greatly aided the Medical Officer of Health by reporting any cases of children absent from school, and suspected of suffering from infectious disease.

Two schools were thoroughly washed and cleansed after outbreaks of infectious disease.

Dairies and Cowsheds (46 in all) have been inspected by the Medical Officer of Health and Inspector. On the whole the premises have been clean and the animals well kept.

Cheadle and Gtley Urban District.

In 3 instances limewashing was required. One cowshed has been re-constructed, and better lighting and ventilation provided.

The Inspector, in 1903, drew up a Report on the lighting, ventilation, and air-space per cow, of every cowshed in the District, and the District Council appointed a Sub-Committee to go into the matter. Where they considered alterations necessary, suggestions were made. With few exceptions the work suggested was done.

Last December he again reported on the lighting, and on the number of cows in each cowshed in the District. In 2 cases the lighting was bad, and the cowsheds were so overcrowded that a Sub-Committee was appointed to visit them and to report. Notices have since been served to the owners to reduce the number of cows and to improve the lighting.

Six samples of milk sold in the District were analysed, and found pure. In one case the special richness of the milk was commented on.

Slaughter-houses.—There are 5 slaughter-houses in the District; none are licensed. They have been regularly inspected, and are kept clean. Plans for the erection of a new slaughter-house have been passed, and the Council have decided to license all the houses.

Factory and Workshops Act.—There are 54 workshops on the register, viz. :—2 bleaching and dyeing, 2 brick-making, 8 builders, 11 bakehouses, 2 laundries. There are also hand-loom silk-weaving works. Altogether 102 visits of inspection were made, and no defects were found. Thirty-five visits were paid to outworkers' premises.

The workshops are clean, ventilation and air space good; the latter is even in excess of the requirements of the Act. The outworkers' premises are also clean and wholesome.

Sewage Outfall Works.—These continue to work very satisfactorily. Whenever samples of the effluent have been taken by the Inspector of the Mersey and Irwell Joint Committee for analysis they have been reported as good. When the Sewage Outfall Works were first opened the sewage was treated with a solution of "Alumino Ferric," in settling tanks, and then passed through filters consisting of gravel, sand and polarite. The

Cheadle and Gatley Urban District.

Surveyor states that the sewage is not chemically treated at all, but allowed to settle in open septic tanks, and then passed on to the land. There are still $14\frac{1}{2}$ acres which have been levelled up and used for land filtration.

The sewage system, although the original scheme was completed, was extended in 1905 and again in 1906, and also during this year another length has been added in the neighbourhood of Grove Lane, Moss Lane and Acre Lane.

In Adswood, where the sewer has not been carried, several of the houses have been drained into a small septic tank, which consists of an anerobic and an aerobic chamber. This arrangement so far has worked very well.

Refuse Removal.—In the Inspector's Report will be found a summary of the number of loads of refuse removed from dwelling-houses. Up to this year it has been efficiently done, but as there has been no increase in the staff for some considerable time, and the amount of work has increased very much lately, and owing to the number of complaints received, the whole of the matter was gone into by a small committee and a report made by the Surveyor, with a result that the staff has been increased, and now it is able to cope with the work more efficiently.

The general sanitary condition of the District goes on improving slowly, and fewer complaints about nuisances have been received. As stated in the last Annual Report, the question of disposal of house refuse will shortly have to be dealt with, as all the pits in the District, which are at all suitable for the purpose and not too near dwelling-houses, are nearly filled up.

Inspector's Report.—The Inspector, Mr. Fearnley, reports that he made 656 inspections of houses and premises, and 470 re-inspections, and served three notices. In one instance legal proceedings were taken, under Section 32 of the Housing of the Working Classes Act, 1090, and an order was obtained to close three houses, which were unfit for human habitation.

Twenty houses were disinfected after infectious disease, 27 were entirely redrained, and joined to the sewerage system, 23 house drains were repaired, 12 privies were converted into W.C.'s, 11 ash-pits replaced by dust-bins, 40 slop, waste, or rain-water pipes repaired, 29 bath, or other house-pipes repaired, and made to comply with modern sanitary requirements. 935 are now

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houses provided with W.C.'s, and 30 with waste W.C.'s. 3422 loads of house refuse were removed, 2293 ashpits were emptied, and 407 dust-bins.

Recreation Ground.—The original plot of land has been exchanged for one nearer the Stockport main road and more convenient for the children. It has been fitted up with a shelter and swings, and is now very much used and appreciated by the children.

The Council have also provided a temporary ground for the children in Gatley; it was opened in the summer of 1905.

Cemetery.—It has been stated in previous Reports that the various burial grounds in the District are almost full, and in the Report for 1900, that land had been found for a cemetery, and that plans for laying out the same had been prepared. This land was purchased in 1901, and the work of laying it out was undertaken shortly afterwards. The Cemetery was formally opened by the Chairman of the District Council in April, 1903, and the Church of England part was consecrated by the Bishop of the Diocese in June. It has since been used for interments.

COMPSTALL

Urban District.

Medical Officer of Health—DR. C. H. HIBBERT.

Population at Census, 1901—875.

Estimated Population in middle of 1907—880.

Area in acres—903.

Birth-rate per 1,000 living—20.4.

Death-rate per 1,000 living—9.1.

Death-rate from seven principal Zymotic Diseases—1.1.

Deaths under one year to 1,000 births—55.

By Local Government Board Order, No. 42,748, which came into operation on April 1st, 1902, the Civil Parish of Compstall was constituted an Urban District. The population of Compstall at the Census, 1901, was 875, and the population of the same area at the Census in 1891 was 1,012. The decrease in the population during the decennium, 1891-1901, was therefore 137, that is 13.5 per cent.

Compstall Urban District.

Before being constituted an Urban District, Compstall formed a portion of Stockport Rural District.

The District lies on the north-west of the River Etherow, which separates it from the Parish of Ludworth, in the County of Derby. On the north is the Borough of Hyde, on the west and south-west is the Urban District of Bredbury and Romiley, and on the east and south-east is the County of Derby.

The District is hilly,—and the subsoil is chiefly clay and sand, with underlying rock.

The greater portion of the houses are situate at the lower part, and on the south-east side of the hill on which the District lies. This part is urban in character, the remainder of the District being rural, and consisting chiefly of farm-houses and agricultural land.

During 1907 the number of births registered was 18, and the number of deaths registered, including the death of 1 person registered outside the District, was 8.

The birth-rate is slightly lower than it was last year, and considerably below the Compstall average, and the death-rate is very low, only 9.1 per 1,000.

There was 1 death from diarrhœa, 1 from phthisis, 1 from bronchitis, and 1 from heart disease.

Infectious Disease notified.—One case of diphtheria, and 19 cases of scarlet fever were notified. Seven cases of scarlet fever were taken to hospital. Cases continued to appear throughout the year, in spite of the precautions taken to stamp out the disease. There is no doubt, however, that the closing, disinfecting, and thorough cleansing of the schools in April, prevented the disease becoming epidemic, as it threatened to do. The cases were of a mild character, and no deaths occurred. The 1 case of diphtheria also recovered.

The Medical Officer of Health recommends that measles and phthisis should be made notifiable.

Disinfecting Apparatus needed.—There is no disinfecting apparatus, and one should be provided.

*Compstall Urban District.***Action taken to prevent Spread of Infection.—**

On a case of infectious disease being notified, the premises are examined, and if defects are found the owners are required to remedy them. The patients are isolated as far as practicable, and the rooms, bedding, and clothes are afterwards disinfected with formaldehyde lamps. Disinfectants are supplied free. Parents are instructed to keep members of infected families from attending school or mixing with other children till all risk of infection is over.

The Headmaster of the District School also affords much assistance by reporting any suspected cases of infection.

Isolation Hospital Accommodation.—The Council have retained one bed at the Hyde Isolation Hospital, and have also arrangements with the High Peak Hospital Committee by which patients suffering from an infectious disease can be admitted to Chinley Hospital.

The Water-supply is plentiful, and of good quality. It is obtained from springs on the upland and stored in two reservoirs, from which the houses in the Urban portion are supplied. The reservoirs are cleaned, and well lined in spring, and the mains are flushed regularly.

The reservoirs are liable to become contaminated during heavy floods, but precautions have been taken against this, the water being turned into drains specially reserved for such conditions. The Rural parts are supplied by water from springs and wells. These are very liable to contamination, but on inspection were found to be clean and well protected. The water was clear, palatable, and free from odour.

Industries.—The industry of the District is that of spinning and weaving, which is carried on at Compstall Mills by the Calico Printers' Association. The majority of the inhabitants of the District are employed at these Mills.

Factory and Workshop Act, 1901.—The Medical Officer of Health and Sanitary Inspector have carefully inspected the Mills. The rooms were whitewashed and clean. The ventilation was good and the closets were in order. The pails are emptied regularly and disinfected. A few defects were pointed out and immediately remedied.

The Bye-laws in Force are those of the Stockport Rural District Sanitary Authority, which the Council adopted

Compstall Urban District.

when the District became an Urban District, and are sufficient for present needs.

The houses are in good condition, and in most cases of sufficient accommodation. There are plenty of open spaces. The yards are clean and sanitary. One or two cases of overcrowding have been notified, and the families have now removed to larger houses. No new houses have been erected.

Refuse Removal.—The removal of excreta and other refuse is done regularly, and the ashpits are well disinfected after being emptied. A portion of the household refuse is removed to a tip a good distance away, and buried.

The ashpits should be emptied more frequently, especially in the summer.

Uncovered Ashpits.—Most of the ashpits are covered and ventilated. The Medical Officer of Health advises his Council to notify the owners of property to have the remaining ashpits covered and ventilated. The greater portion of the refuse ordinarily put into the ashpits to putrify, might with advantage be burnt on the kitchen fires.

The Sewers, which carry slop water only, have their outlet in a reservoir, which stores water for a turbine.

Eventually the sewage is discharged into the river.

The drains are in good condition, and are trapped and ventilated. Disconnection is general. The Medical Officer advised the Council to adopt a new sewerage scheme for the Urban portion of the District.

Slaughter-house.—There is only one slaughter-house in the District. This is kept clean and sanitary.

Dairies and Cowsheds have been inspected, and were found clean, ventilated, and in good condition. One notice served, and nuisance abated.

No Offensive Trades are carried on in this District.

Nuisance Abatement.—The Inspector reports that six nuisances have been abated without written notices being sent. Sixteen houses have been disinfected during the year. Plans for proposed alteration to the Council Schools were

Compstall Urban District.

presented to and passed by the Council, subject to certain alterations to the drains, which alterations were eventually agreed to by the School Authorities.

Recommendations.—The Medical Officer recommends that the Council should adopt:—

- I. The Compulsory Notification of Measles and Phthisis.
- II. A Disinfector, for bedding and clothing.

ELLESMERE PORT AND WHITBY
Urban District.

Medical Officer of Health --DR. G. A. KENYON.

Population at Census, 1901—4,182.

Estimated Population in middle of 1907 —6,071.

Area in acres—1,261.

Birth-rate per 1,000 living—35.2.

Death-rate per 1,000 living—9.0.

Death-rate from seven principal Zymotic Diseases—1.1.

Deaths under one year to 1,000 births—112.

By Local Government Board Order, No. 42,750, which came into operation on April 1st, 1902, the Civil Parish of Whitby was constituted an Urban District named Ellesmere Port and Whitby. The population of this area at the date of the Census in 1901 was 4,082. The population of the same area at the date of the Census in 1901 was 5,107.

During 1907 the number of births registered was 214, and the number of deaths belonging to the District was 49. To the deaths must be added the deaths of 6 persons who died in public institutions outside the District. The birth-rate is 1.1 above the average in the ten years 1897-1906, and the death-rate is 2.8 below the average in the same 10 years.

Twenty-four of those who died were under 1 year of age, and 9 were 65 years old, and upwards.

Seven deaths were due to the principal zymotic diseases, viz., 1 measles, 1 whooping-cough, 1 diphtheria, and 4 diarrhœa.

Ellesmere Port and Whitby Urban District.

There was also 1 death from septic disease. 4 were from phthisis, 2 from cancer, 6 from bronchitis, 1 from other disease of the respiratory organs, 1 from alcoholism, 8 from premature birth, 4 from heart diseases, 4 from accidents, and 1 from suicide.

Cases of Infectious Disease notified.—There were 21 cases of infectious disease notified, viz., 1 diphtheria, 18 erysipelas, 1 scarlet fever, and 1 enteric fever. None were sent to the Isolation Hospital. The houses where the cases occurred were visited, and instructions given for isolation and disinfection.

Isolation Hospital Accommodation is provided for this District and other parts of the Wirral Union by the Wirral Joint Hospital Board.

Inspection.—The Medical Officer of Health visited the District from time to time, and gave advice on points of detail in connection with sanitary work.

Water-supply.—The District is supplied with water from the West Cheshire Waterworks.

Complaints have been made from time to time that the water is turbid from iron rust, but steps are being taken to filter off the rust.

Sewering.—The District is sewered where built upon, except as regards a few outlying dwellings, such as those at Whitley Heath.

New Houses.—During the year the building of 50 houses has been supervised.

Building Bye-laws.—The model Building Bye-laws are in force in the District.

Removal of Excreta.—The disposal of excreta is partly by water-closets, and partly by combined ashpit privies. The latter are constructed entirely above ground, and kept in as good order as practicable. All refuse removal is done by a contractor, employed by the District Council. The contract provides for the emptying of privies and ashpits once a month at least, and the emptying of ashbins once a week.

Ellesmere Port and Whitby Urban District.

Report of Surveyor and Contractor.—Mr. Hudson, the Surveyor and Inspector of Nuisances, makes a very complete and satisfactory report. He states that during the year 200 houses were specially inspected and 40 of them re-inspected, and 12 orders were issued for sanitary amendment of premises. Thirty-six privies have been converted into water-closets, the pavement of 15 back passages has been paved, and 11 dustbins have been provided in place of ashpits. All new houses are provided with dustbins instead of ashpits. Two animals, improperly kept, were removed, and 4 house chains were repaired. No case of over-crowding was reported or discovered.

Sewer Flushing.—The main sewers are regularly flushed once a month.

Dairies, &c.—Fourteen dairies and milkshops have been regularly inspected.

Slaughter-houses.—Two slaughter-houses have been regularly inspected.

Unsound Meat.—During the year a butcher was prosecuted for having on his premises diseased or unsound meat. He was fined £40 and costs. Subsequently he retired from business.

Factories and Workshops Act.—Attention is being given to the carrying out of this Act. There are 7 factories and 8 workshops or workplaces in the District. One notice was issued for want of cleanliness, and the defect was remedied.

Canal Boats were inspected by Mr. Hudson about once a month. There were in all 30 boats. No infringements of the Canal Boats Act, or regulations thereunder, were observed.

One large factory employs 400 men, one employs 100, the Shropshire Union Railway and Canal Works employ 300, and two large corn mills 30 and 40 men respectively.

The sanitary arrangements of all these works are supervised.

HALE**Urban District.**

Medical Officer of Health—DR. T. A. ROTHWELL.

Population at Census, 1901—4,562.

Estimated Population in middle of 1907—7,556.

Area in acres—1,288.

Birth-rate per 1000 living—18.9

Death-rate per 1000 living—8.2.

Death-rate from 7 principal Zymotic Diseases—0.1.

Deaths under one year to 1000 births—63.

By a Local Government Board Order, which came into operation on April 1st, 1900, the Civil Parish of Hale was constituted an Urban District.

The population of this District was 4,562 at the Census in 1901, and the population of the corresponding area was 2,575 at the Census in 1891. The increase of the population during the decennium 1891-1901 was thus 1,987; that is 77 per cent. The estimate of the population made for the middle of 1907 (7,556) seems rather high. It is based on the number of inhabited houses.

During 1907 the number of births registered was 143, and the number of deaths registered was 59. To the deaths must be added the deaths of 3 persons belonging to the District, which took place elsewhere. Thus the number of deaths belonging to the District was 62. The birth-rate is about 0.3 below the average since the District was formed, and the death rate is about 0.8 below the average since the District was formed.

The only death from zymotic disease during the year was one from enteric fever. There was one death from enteritis and one from septic disease. There were 3 deaths from phthisis, 5 from other tubercular disease, 6 from cancer, 6 from bronchitis, 6 from pneumonia, 1 from disease of the respiratory organs, 1 from alcoholism, 1 from premature birth, 1 from injury at birth, 6 from heart diseases, 1 from accident, 1 from malnutrition, 1 from convulsions, 5 from genito-urinary diseases, 2 from diseases of the nervous system, 1 from appendicitis, and 6 from senile decay.

Cases of Infectious Disease notified.—There were 21 cases of infectious disease notified, viz. :—3 diphtheria, 1 erysipelas, 15 scarlet fever, and 2 enteric fever. Of these cases 4 were removed to hospital at Baguley, namely, 1 diphtheria, and 3 scarlet fever.

Hale Urban District.

Measles was very prevalent during the year, but there were no fatal cases. Scarlet fever cases occurred at intervals throughout the year, but chiefly in December.

Enteric Fever.—There were 2 cases, of which 1 proved fatal.

Bacteriological Diagnosis.—Since 1900, facilities have been given to Practitioners to have morbid products from suspected cases of diphtheria and enteric fever tested bacteriologically.

During 1907, 7 swabs from patients believed to have diphtheria, were sent for examination, one of which gave a positive result, and six negative results.

“Typhoid Outfits” under similar arrangements as for diphtheria are provided, but none were utilised during the year.

The Infectious Diseases (Prevention) Act, 1890, was adopted by the District Council in November, 1891. This should prove of much value.

Isolation Hospital Accommodation.—The Hale Urban District succeeds to the arrangements already made by the Bucklow Rural District Council, and the Bucklow Joint Hospital Board. There has thus been accommodation for cases of infectious disease at Baguley since December 8th, 1902, the day on which the Baguley hospital was opened for the reception of patients.

Tuberculosis.—As previously stated there were 3 deaths from phthisis, and five from other tubercular diseases. Thus the whole tubercular death-rate was equal to 1.05 per 1000 living. As heretofore, provision is made by the Council for the examination of sputa, and discharges from persons suspected of having tubercular disease.

Dairies.—All premises used by purveyors of milk, including cowsheds, have been carefully inspected, and steps have been taken to remedy defects noticed. Milk being derived from many farms, within and without the District, makes supervision very difficult of accomplishment.

The Urban District Council have made Regulations under the Dairies, Cowsheds, and Milkshops Order.

Water=supply.—The water supplied to Hale is satisfactory. It is important that the water main should be regularly flushed; and it is not less necessary that householders should systematically cleanse cisterns and domestic filters.

Road Improvement.—A great deal of attention was given to the sewerage, kerbing, channelling, and making-up of various roads. The general condition of the roads has been well maintained, under the supervision of the road foreman.

The Road Dust Nuisance.—To minimise this nuisance, Ashley Road, Victoria Road, and Park Road were treated during the summer months with Calcium Chloride. Owing to the wet season, the dust nuisance was infrequent.

Sewerage.—The system in vogue in this District is the dual system. The major portion of the sewage from the north side of Hale Road is dealt with at the Altrincham Sewage Farm, while the sewage from the south side of Hale Road, and a small portion of the north side, is dealt with at the Sewage Farm at Ashley Heath.

The methods employed at Ashley Heath during the year were as follows:—

- (a) By septic tank, followed by bacteria beds and broad irrigation.
- (b) By Chemical treatment (alumino-ferric precipitation) followed by broad irrigation.
- (c) By settling tanks and broad irrigation.

Effluvium Nuisance from Sewers.—During the year the various sewers of the District have been regularly flushed. Very few complaints have been received, and where such have related to manholes these have been sealed, and ventilation provided either by ventilating shafts up the sides of houses, or Webb's ventilating lamps. Wherever possible the former plan has been adopted.

Sewers have been laid during the year in Queen's Road, Hermitage Road, Leigh Road, Addison's Road, while the sewage sewer between Queen's Road and Peel Street has been disconnected, so that now the sewage from Oak Road and Queen's Road flows into the Moss Lane sewer.

Disinfection.—The method of disinfection in the District is the same as heretofore, viz.:—By formalin gas, followed by spraying where necessary, stripping the walls, and the destruction of any articles that cannot practically be disinfected.

Hale Urban District.

Bedding and other articles which cannot be disinfected by soaking in disinfecting solutions are sent to the Altrincham Authorities for sterilisation, an arrangement which so far has worked satisfactorily.

The Factory and Workshop Act, 1901, which came in force on January 1st, 1902, confers greatly increased powers of Inspection on a Medical Officer of Health in dealing with wash-houses, millinery and tailoring establishments, etc., of a quasi-private nature, and appears to be specially adapted for dealing effectively with such small concerns as may exist in Hale. In this District, bakehouses, builders' workshops, bootmaking and repairing shops, milliners' and tailors' shops, etc., are such as come under the operation of the Act. The special provisions relating to underground bakehouses which came into force on January 1st, 1904, were dealt with by the appointment of a Sub-Committee, which visited, inspected, and reported upon all bakehouses in the District.

At the end of the year there were 24 workshops and 1 factory (a bakehouse) on the register. All are in order. The workshops are men's workshops. 47 inspections were made, and two notices served and complied with.

No Common Lodging-houses are in Hale.

Scavenging.—During the year 1907 the scavenging of the District has been carried out by the Council, whereas previously it was contracted out. This has led to a more satisfactory condition of affairs in this respect, complaints being practically absent. It is pleasing to know that efficiency has gone hand in hand with economy, the net result for the year being very satisfactory.

There were in all 1,554 loads of refuse removed.

Nuisance Abatement.—The Inspector of Nuisances has during the year given attention to complaints made to him, or discovered by him, and in all 227 inspections were made.

No Slaughter-houses or Offensive Trades exist in this District.

HANDFORTH

Urban District.

Medical Officer of Health—DR. ISAAC WATTS.

Population at Census, 1901—911.

Estimated Population in middle of 1907—935.

Area in acres—1,312.

Birth-rate per 1,000 living—20.3.

Death-rate per 1,000 living—12.8.

Death-rate from seven principal Zymotic Diseases—0.

Deaths under one year to 1,000 births—0.

Dr. Isaac Watts died on March 2nd, 1908, and the Report for 1907 was prepared by Dr. John O'Connor, who was temporarily appointed Medical Officer of Health.

All that remained in Stockport Rural District in 1903 was the Civil Parish of Handforth. This Parish lies between the Urban District of Cheadle and Gatley on the north, and the Urban District of Wilmslow on the south. The subsoil is sand and clay.

This District obtained Urban powers, being constituted the Urban District of Handforth in September, 1904. Early in October, an Urban District Council was elected, and in November and December officials were appointed, and approved by the Local Government Board.

The District is mainly agricultural. There is one bleach-works (worked by the Bleachers' Combine) which gives employment to about 140 men, women, boys, and girls. The works are well-constructed, and the health of the operatives is good. There is also one small brewery in the District.

In 1907 the number of births registered was 19, and the number of deaths registered was 12.

The birth-rate is 20.3, and the death-rate is 12.8 per 1000 living.

The deaths include 2 from bronchitis, 3 from pneumonia, 2 from heart disease, 1 from laryngitis, and 2 from pericarditis.

There was no infantile mortality.

No case of infectious disease was notified during 1907.

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Antitoxin has been provided for use, should cases of diphtheria be notified.

No Isolation Hospital Provision has been made. The Council would do well to arrange with some authority having a hospital for the isolation of cases of infectious disease.

Factory and Workshop Act.—The bleach-works and brewery already referred to have been inspected. They are clean, well ventilated, have sufficient air-space, and suitable sanitary accommodation.

Housing Accommodation for the working-classes is, with few exceptions, good. There are 193 inhabited houses in the District. There is a sufficiency of open space about the premises, and the surroundings are healthy. No new houses were completed during 1907, but plans were passed for 10 cottages, 2 house alterations, 1 cowshed, 1 shop, and 1 dye works.

No Common Lodging-houses are in the Handforth District.

Lighting.—The houses and streets are lighted with gas.

Water-supply.—The District is supplied by the Stockport Corporation. The water is of good quality and sufficient.

Main-drainage Needed.—A system of main sewers is still needed at Handforth, and should be provided. The present system of draining into open ditches constitutes a danger to the public health. Owing to these ditches having insufficient fall, foul matter readily accumulates in them, and after being cleaned out they soon become polluted again.

The Medical Officer of Health is pleased to be able to report that a scheme for main drainage has been prepared, and submitted to the Local Government Board. The scheme appears to be excellent and calculated to meet the requirements of the District.

Dairies and Cowsheds are systematically inspected, they have been found clean, and well ventilated.

Slaughter-houses.—The two slaughter-houses in the District are regularly inspected, and kept in good order.

The Elementary School has been visited on several occasions. The sanitary arrangements are clean and satisfactory.

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Nuisance Abatement.—Mr. P. Churchill Larmuth, the Surveyor and Inspector, reports that 10 nuisances came under his attention during 1907. As regards 6 formal notices were served, requiring their abatement, and the remaining 4 were abated without formal notices.

New Building Bye-laws have been framed, and submitted to the Local Government Board for their approval.

HAZEL GROVE AND BRAMHALL

Urban District.

Medical Officer of Health—DR. T. MOORE.

Population at Census, 1901—7,934.

Estimated Population in middle of 1907—9,688.

Area in acres—5,448.

Birth-rate per 1,000 living—17.3.

Death-rate per 1,000 living—12.7.

Death-rate from seven principal Zymotic Diseases—0.4.

Deaths under one year to 1,000 births—113.

During the year 1901 the County Borough of Stockport obtained an Extension Order, under which 624 acres belonging to this District, having a population of 1,857, were annexed; but as this Order did not take effect till November 9th, 1901, it was convenient to consider the transferred area and population as belonging to the Urban District and the Administrative County till the close of the year 1901.

The population of the reduced area is estimated to have been 9,688 in the middle of the year 1907. It is calculated that each occupied house would average a population of 4.5 persons.

In 1907 the number of births registered was 168, and the number of deaths registered, including 5 which occurred outside the District, was 123.

There were 4 deaths from the principal zymotic diseases, viz.:—2 scarlet fever, and 2 whooping-cough. Among

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the other registered causes of death were 12 from phthisis, 14 from other tubercular disease, 1 from epidemic influenza, 2 from non-membranous croup, 8 from cancer, 12 from bronchitis, 13 from pneumonia, 15 from heart diseases, 3 from alcoholism, 1 from premature birth, and 7 from marasmus.

Cases of Infectious Disease notified.—There were 43 cases of infectious disease notified, viz.:—6 diphtheria and 37 scarlet fever.

Scarlet Fever.—This disease has been very prevalent, and spread over a wide area. Some cases were so mild as to escape recognition. This, and the carelessness of the public as to conveyance of infection, and as to the necessity for isolation, tended to spread the disease.

Diphtheria.—There were 6 cases of diphtheria, but no deaths. The Urban Council supply Antitoxin when requested to do so.

Action taken to prevent Spread of Infection.—The Medical Officer of Health considers that the closing of a school for from 10 to 14 days, with thorough cleansing and disinfection, is the most effective way of checking the spread of infectious disease. Bramhall School was closed during the scarlet fever epidemic.

Whenever a case of infectious disease occurs, the Inspector and his staff thoroughly disinfect everything about the house, and all clothing. By order of the District Council, leaflets, giving instructions as to the best mode of procedure to prevent the spread of the disease are distributed.

Isolation Hospital Accommodation.—The District Council have arranged with Hyde Corporation to have two beds in the New Isolation Hospital for ordinary infectious cases, and two beds in the Old Hospital reserved for small-pox cases.

Infectious Disease (Prevention) Act, 1890.—This Act came in force in this District on September 6th, 1904.

Infant Mortality.—This rate is somewhat below the rate for the whole County, and may be considered low, in a populous manufacturing area. The Medical Officer of Health hopes that in time the systematic course of teaching for elder

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girls, in household management, cookery, and the feeding of young children may help to diminish the rate of infant mortality in the future.

Vaccination.—Since the introduction of the Local Government Board lymph, this has been most satisfactory; those applying for exemption are very few in number.

New Bye-laws.—New Bye-laws with respect to new streets and buildings and to the subjects which come under the general purview of the Council, were approved on the 2nd December, 1902, and by the Local Government Board on 2nd January, 1903, and are now in force throughout the District.

These Bye-laws have been favourably commented on by many authorities, and referred to as having been drawn with very great care to bring them up-to-date.

New Houses, &c.—There were 122 plans submitted during 1907, and 22 plans for miscellaneous buildings and additions.

New Streets.—Four plans for new streets were passed.

Private Street Works.—Some of the new streets entering Commercial Road should be made up and paved, especially Hazel Street, which has now become an important thoroughfare, and is practically built over. Chapel Street also requires attention badly.

Water-supply.—The water supplied to the District is good. It comes from the Lyme reservoirs, which will be augmented by the completion of the Kinder Water Works scheme.

Kinsey's well, referred to in the last Annual Report, has been closed, in the interest of public health, the report of the County Analyst on the water therefrom rendering closing necessary.

Offerton well has been closed for the same reason. The water from wells is gradually being discontinued, owing to the great danger of contamination, especially since the District has grown considerably.

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Street Lighting.—The main road of Hazel Grove village is lighted with incandescent lamps, but it is advisable that these should be placed more closely, now that the traffic has largely increased. The side streets still require lighting with incandescent lamps, and some new lamps are greatly needed, in places.

School Accommodation.—The Cheshire County Council have acquired a site of land over 8,000 square yards in area, fronting Chapel Street, for the erection of a school to accommodate 800 children.

The Managers of St. Thomas's School, Norbury, have plans under consideration for the extension of their school premises, to bring them up to the requirements of the Education Department.

Dairies, Cowsheds, and Milkshops.—These are regularly inspected and are in a satisfactory condition.

There are now 41 purveyors of milk on the register, and the Medical Officer draws attention to the necessity for absolute cleanliness in all vessels used in connection with milk, and also to the fact that milk, or empty milk cans should never be allowed to stand in rooms where they might be infected, milk being always a very susceptible and ready vehicle for conveying diseases into the human system.

The very greatest care and cleanliness should be exercised with the cattle; the drinking water should be clean and as sure as possible; the cows' udders kept clean, the milkers should be perfectly healthy themselves, and should have clean hands and clean overalls, in handling the milk; in fact, it is impossible to be too particular in everything connected with it.

Slaughter-houses have been inspected. There are 10 in the District.

In cases where an accident happens to a beast, requiring slaughtering at a farm, or away from the registered slaughter-houses, notice is required to be given to the authorities, in order that the carcass may be inspected before it is allowed to be disposed of for human food.

Unsound Meat.—On the 22nd May, 1907, a prosecution was instituted against Isaac Daniels and William Henry Gardiner, two butchers, for being in possession of the carcass

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of a calf and a fore quarter of beef that were intended for human consumption, and were not fit. The case was heard before the magistrates, and a conviction obtained, with fines of £5 and £15 respectively.

Factory and Workshop Act.—Effect has been given to the requirements of this Act. In course of inspection one defect was discovered. There are in all 12 bakehouses, 54 domestic workshops, and 25 ordinary workshops.

There is every probability of a large engine works for the making of small engines for oil power becoming located in the neighbourhood of Hazel Grove, and as it is expected to bring a considerable number of workpeople, it will be a valuable addition to the District.

Sewerage and Sewage Treatment.—There are two drainage areas, viz.:—Hazel Grove and Bramhall. In the Hazel Grove area are included Bosden, Norbury, Torkington, Offerton, and the East Ward of Bramhall. In the Bramhall area are included the South Ward of Bramhall and a portion of the North Ward. The Hazel Grove sewage is dealt with by precipitation at the Offerton Sewage works, which are in fairly good condition. The Bramhall Drainage Area system and Outfall works were completed in 1902, and are in operation. At these works the sewage is dealt with bacteriologically. Practically the whole of the area is connected with the system. In some instances the private drains connected with the sewers have been overhauled and re-arranged.

A new sewer is in course of being laid along Wesley Street at the present time, and a short length has also been laid along Neville Street to provide for the new buildings in Green Lane and that neighbourhood.

Sewer Flushing.—All the sewers in the District are periodically flushed.

Ashpit=privies.—There still remain many of these pits, which should be done away with. Each receptacle should be roofed, and have a bottom at least six inches above the level of the yard adjoining. House-holders should also see that vegetable refuse, etc., are thrown behind the fire and burned, and not put into ashpits. The privies should be converted into water-closets, or, if this is not practicable, into pail-closets. If possible, the water-closet is preferable.

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Refuse Removal.—Having this work done by the employees of the Urban District Council has effected an improvement. Much of the work is now done in the night time, and accumulations of night-soil are no longer thrown into the street in the day.

Number of Ashpits emptied	...	...	...	...	3241
do. Houses relieved	...	...	...	..	5291
do. Loads of Refuse removed	...	...	...	...	3011½
Total cost, including Manual and Team Labour, Rent,					
Repairs and Materials	...	..	...	£410	5s. 6d.
Cost per head of population (estimated 9688)	...	...	...	10.16d.	
Cost of emptying per ashpit	...	...	...	2s. 6½d.	

Nuisance Abatement.—Nuisances complained of or discovered are promptly investigated by the Inspector, and, if desirable, inspected by the Medical Officer of Health. Most nuisances are dealt with at once, the owner or tenant accepting the suggestions made. Reports are made at the monthly meetings.

Number of Complaints entered in Report Book during year	39
do. Nuisances abated during the year	31
do. Nuisances unabated	16
do. Nuisances unabated, though in hand	5
do. Statutory Notices served	12
do. Intimations given	33

Steam Disinfector required.—At the present time clothing and bedding have to be sent to Hyde to be disinfected. It would be an advantage to have a steam disinfector provided by the Council for use in this District.

Further Ground for Interments needed.—Space in the graveyard at St. Thomas' Church, Hazel Grove, the only one in the District, generally known as Norbury Churchyard, is becoming limited for burials, and some provision for the near future requires the attention of the Council.

HOLLINGWORTH

Urban District.

Medical Officer of Health—DR. W. E. S. BURNETT.

Population at Census, 1901—2,477.

Estimated Population in middle of 1907—2,980.

Area in acres—2,086.

Birth-rate per 1,000 living—21.1.

Death-rate per 1,000 living—15.7.

Death-rate from seven principal Zymotic Diseases—1.6.

Deaths under one year to 1,000 births—111.

The population of this Urban District was 2,895 at the Census in 1891, and 2,447 at the Census in 1901. Thus during the decennium 1891–1901, there was a decrease in the population of 448*. The estimate of the population for 1903 and 1904 shows an increase, some large bleachworks having been built in the District, which are now in full work. The estimate for the middle of 1906 was 2,800, and the estimate for 1907 2,980.

In 1907 the number of births registered was 63, and the number of deaths registered in the District was 45. To these must be added the deaths of 2 residents, which occurred in institutions beyond the District, making a total of 47. The birth-rate is 21.1, being 3.4 below the average in 1897–1906, and the death-rate is 15.7, that is 0.3 below the average in the same 10 years. Of the 63 infants born, 3 were illegitimate, and 2 of these died during the year.

Infant Mortality.—Seven of those who died were under 1 year of age; this is equal to a death-rate of 111 per 1,000 living. The deaths were ascribed to the following causes: 2 to convulsions, 2 to premature birth, 1 to tabes mesenterica, 2 to pneumonia.

Coroner's Inquests.—During 1907 the Coroner investigated the causes of 2 deaths, and the following verdicts were given: Male, 61, pneumonia, accelerated by excessive drinking, and female, 6 months, convulsions, following measles.

Cases of Infectious Disease notified.—There were 21 cases of infectious disease notified, viz.: 17 scarlet fever, 3 erysipelas, and 1 puerperal fever. No cases were removed to hospital. There were 3 deaths from scarlet fever and 1 from measles.

* This is due to the stoppage of the Cotton Factories at Waterside, where a large number of the inhabitants were employed, and to the closing of Dalton's Print Works.

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Scarlet Fever.—This disease seems to have been imported from Hadfield at the end of 1906, by a man who worked there. This man's child and the child of a woman who worked at his house were attacked simultaneously. From the two houses thus infected the disease spread to children at school, or playing in the street with others from the infected houses. From these various centres of infection, thus created, isolated cases occurred from time to time till the end of May, and in three houses there were 2 cases each.

Erysipelas.—There were 3 cases of this disease, 1 in a patient suffering from senile debility, 1 from acute eczema, and 1 from an ulcerated leg. There was also a case of puerperal eczema in Woolley Lane. The patient had been subject to attacks of eczema previous to her marriage.

Measles.—These cases were not notified, but an intimation from the Head Mistress of the Infant Council School was received, that 100 children were absent. This would probably mean some 50 cases, and the school was closed, without, however, affecting the outbreak in any way. It was not considered necessary to close St. Mary's School.

Preventing the Spread of Infectious Disease.—On receipt of notification of infectious disease the premises are examined, and, where defects are found, the owners are served with notices to remedy them. The patients are isolated, as far as possible, and their clothes and bedding disinfected by the Inspector. Such disinfectants as are required while the patients are ill are gratuitously supplied. The parents of children suffering from infectious disease are given printed papers, specifying the precautions which should be observed in each case, and are instructed to prohibit all other members of the family from attending school, and other people's children from entering the infected house, until the practitioner in attendance certifies that all risk of infection is over. Information is also given to the schoolmasters.

Isolation Hospital.—This hospital was erected at Mottram in 1903 for small-pox. It is provided jointly by Mottram Urban, Tintwistle Rural, and Hollingworth Urban District. In the absence of small-pox cases no use has been made of the hospital since 1904, and it has accordingly been decided to use it in future for infectious cases other than small-pox.

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Water=supply.—This is obtained from the Manchester Corporation. It is of good quality and usually plentiful.

Inspection.—Periodical inspections have been made by the Medical Officer of Health and Inspector, and where defects have been notified steps have been taken for their removal.

Common Lodging=house.—There is only one common lodging-house. This has been frequently visited, and generally found clean and in order.

Factory and Workshops Act, 1901.—There are seven factories, viz. :—Three cotton factories, one bleachworks, one gas-works, one copper engraving works, and one ærated water-works.

There are 28 workshops in the District. They have all been visited periodically and found in good order. They are mostly ventilated by open windows, regularly white-washed, contain considerably more air space than the Act demands, and the sanitary conveniences and drainage are satisfactory. There are no underground bakehouses in the District.

Cowsheds and Dairies.—These have been periodically inspected, and were generally found clean and in order. There are no milkshops in the District.

New Houses.—Seven new houses are being erected in Taylor Street.

Sewerage.—Mr. W. Pitt reports that a new drain has been laid, and connected to the main sewer in Taylor Street, and several improvements have been made at the Outfall Works. These were necessary, in order to deal satisfactorily with the increased amount of sewage from the Water Lane connecting sewer.

No Offensive Trade is carried on in the District.

Refuse Removal.—The emptying of ashpits, etc., has been carried out under the supervision of the Inspector.

Outfall Works are acting satisfactorily.

Nuisance Abatement.—The Inspector has attended to cleansing choked drains, and getting defective drains and traps put in order. All nuisances reported or observed have been investigated, and steps taken to abate them.

HOOLE

Urban District.

Medical Officer of Health—DR. F. J. BUTT.

Population at Census, 1901—5,341.

Estimated Population in middle of 1907—6,181.

Area in acres—334.

Birth-rate per 1,000 living—24.6.

Death-rate per 1,000 living—11.0.

Death-rate from seven principal Zymotic Diseases—0.1.

Deaths under one year to 1,000 births—98.

This Urban District is only part of the Parish of Hoole ; the remaining part (415 acres) forms part of the Chester Rural District.

The population of the Urban District as enumerated at the Census includes 525 in the Chester Union Workhouse, which is situated in this District.

The population of the entire District was 3,892 at the Census in 1891, and 5,341 at the Census in 1901. The increase of the population during the decennium 1891-1901 was thus 1,449, that is 37.2 per cent. The estimate of the population made for the middle of the year 1905 (5,500) was probably too low. In the middle of 1907 there were 1,242 inhabited houses in the District (168 more than at the Census in 1901). It seems, therefore, reasonable to estimate that the population in the middle of the year 1907 was 840 in excess of the Census population. The estimated population is therefore 6,181. The number includes 503 in the Chester Union Workhouse (situated within the Urban District) so that the population of Hoole proper in the middle of 1907 was 6,181.

In 1907 the number of births registered was 152, including 25 in the Workhouse, and the number of deaths registered was 65. To the deaths must be added the deaths of three residents, which occurred in public institutions outside the District, making a total of 68. Besides these, 90 persons not belonging to the District, died in the Union Workhouse, and are accounted for in the several Districts to which they belonged.

There was only 1 death due to any of the principal zymotic diseases, namely, whooping-cough. There was 1 death from epidemic influenza, and there were 2 from enteritis. Six deaths were due to phthisis, 3 to other tubercular diseases, 6 to

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cancer, 1 to bronchitis, 3 to pneumonia, 2 to pleurisy, 2 to other diseases of the respiratory organs, 6 to premature birth, 2 to diseases or accidents of parturition, and 11 to heart diseases.

Cases of Infectious Disease notified.—There were 50 cases of infectious disease notified, viz.: 29 diphtheria, 3 erysipelas, 14 scarlet fever, 3 enteric fever, and 1 puerperal fever. Of these 30 cases were removed to hospital, viz.: 23 diphtheria, 6 scarlet fever, and 1 enteric fever.

Isolation Hospital Accommodation.—This is provided for at the Chester Corporation Hospital at Sealand.

Phthisis.—Six deaths from phthisis in a population of 6,181, is equal to 0.97 per 1,000 living.

The Medical Officer of Health emphasises the extreme importance of giving every possible encouragement to the voluntary notification of phthisis in the District, and of arranging for the disinfection of premises after a death from this disease.

Measles.—Owing to an outbreak of measles, All Saints' and Westminster Schools were closed a few days before the end of the term.

New Houses.—Ten new houses were erected during 1907. The house accommodation for the working classes is fully adequate for the needs of the District. No action has been taken as yet under the Housing of the Working Classes Act.

Recreation Ground.—The necessity of providing an open space, as a recreation ground, having arisen, through the rapid increase of the population in the District, a piece of land $6\frac{1}{4}$ acres in extent was acquired in 1902, and has since been laid out. It was opened on May 7th, 1904, and has been much in use by children and others residing in the District.

Water-supply.—Water is supplied to the District from the Chester Waterworks, except at Piper's Ash, where it is obtained from two wells, which were cleaned out by the owners in the latter half of 1900. Samples from these wells were collected towards the close of 1906, and submitted for chemical and bacteriological examination, with the result that the water was found to be impure and unfit to drink. The matter has received

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the attention of the Council, and the owners of the property entered into negotiations with the Chester Waterworks Company, who have since laid a main with branches to the houses.

Milk-houses.—The 12 Milk-houses in the District have been periodically inspected, and were found in good sanitary condition.

Inspection.—The District has been carefully inspected by the Medical Officer of Health and the Inspector.

The Factory and Workshop Act.—The only premises which have had to be inspected are 2 Bakehouses, which are in a clean and thoroughly satisfactory condition.

No Slaughter-houses exist in the District, the butchers supplying meat neither killed nor dressed in the District.

Sewers.—The sewers are in good order and kept regularly flushed. These sewers are connected with the sewerage system of the City of Chester, and the sewage is dealt with at the Chester Outfall Works.

Nuisance Abatement is attended to by the Inspector, who reports that all the Notices served by him for nuisances (complained of or discovered) were complied with.

Refuse Removal.—All ash-pits are regularly emptied once a week, by men in the employ of the District Council. There are now no privies in the District, except on the outskirts, where there are no water mains.

HOYLAKE AND WEST KIRBY

Urban District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—10,911.

Estimated Population in middle of 1907—13,520.

Area in acres—2,066.

Birth-rate per 1,000 living—20.9.

Death-rate per 1,000 living—7.98.

Death-rate from seven principal Zymotic Diseases—0.96.

Deaths under one year to 1,000 births—74.

The Urban District consists of West Kirby, Little Meols (including Hoylake and Hilbre Island*) Hoose, Great Meols and part of Grange. The area is as follows :—

				Area in Acres.
West Kirby	...	...	...	482
Little Meols	...	...	...	711
Hoose	...	...	...	108
Great Meols	...	...	..	695
Part of Grange	...	..	...	23

The Urban District was created by an Order of the Cheshire County Council, which was confirmed by the Local Government Board, dated January 15th, 1891.

The portion of the Urban District now regarded as Hoylake is Meols, Hoose, and Great Meols; the portion now regarded as West Kirby is West Kirby, and part of Grange.

The population of the Urban District was 6,545 at the Census in 1891, and 10,911 at the Census in 1901. The increase in the population during the decennium 1891-1901 was thus 4,366, that is 66.7 per cent. The estimate of the population made for the middle of the year 1907 is 13,520. This is based on the assumption that the population has continued to increase at the same rate since the Census of 1901 as during the previous ten years. The estimate is in accord with the rate at which the building of new houses is proceeding.

* This Island appears on the Ordnance Map as a detached part of the former civil parish of St. Oswald, now incorporated with that of Chester, but it is treated as a part of Little Meols, owing to its having been rated to this parish for the maintenance of the Poor.

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During 1907 the number of births registered in the District was 283, and the number of deaths registered in this District was 118. From these deaths should be deducted, 22 deaths of persons not belonging to the District, and to them should be added the deaths of 12 persons belonging to the District, which took place elsewhere. Thus the deaths of those belonging to the District were 108. The birth-rate is 1.0 below the corresponding average in 1897-1906, and the death-rate is 4.6 below the corresponding average in 1897-1906.

Among those who died 21 were infants under a year old, and 24 were persons 65 years old and upwards.

Thirteen deaths were ascribed to the principal zymotic diseases, viz. :—1 scarlet fever, 1 whooping cough, 1 diphtheria, 1 typhus fever, 1 enteric fever, and 8 diarrhœa. There was also 1 death due to epidemic influenza, and there was 1 death due to enteritis. Nineteen deaths were ascribed to phthisis, 6 to other forms of tubercular disease, 6 to cancer, 2 to bronchitis, 7 to pneumonia, and 13 to heart diseases. One death was ascribed to alcoholism, 1 to peripheral neuritis, and 1 to suicide.

Infectious Disease.—There were 84 cases of infectious disease notified, viz. :—8 diphtheria, 1 erysipelas, 64 scarlet fever, 1 typhus fever, and 10 enteric fever.

Of these 3 cases of diphtheria, 42 of scarlet fever, and 7 of typhoid fever were removed to hospital. Thus 61.9 per cent. of the notified cases were removed to hospital. The other cases were isolated as far as practicable at home. All cases were duly investigated. Measures were taken for the discovery and correction of insanitary conditions, and for disinfection. In all 203 rooms have been disinfected. On 26 occasions bedding and clothing have been sent to the Steam Disinfector, and 3 lots of bedding were destroyed. House drains were flushed after all cases of infectious disease. The mortality from scarlet fever (1 in 64) was very small.

School Closure.—In September a Public Elementary School was closed, owing to the prevalence of scarlet fever among the scholars.

Tubercular Disease.—As there were 19 deaths from phthisis, and 6 deaths from other tubercular diseases, the phthisis death-rate was equal to 1.40 per 1,000 living, and the entire tubercular death-rate was equal to 1.85 per 1,000 living. Premises were disinfected on 6 occasions after cases of phthisis.

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Water-supply.—The District has an excellent supply of water from West Kirby Waterworks (deep wells).

Inspection.—The Medical Officer of Health has visited the District a number of times, made general and special inspections, and advised the District Council and the Surveyor and Inspector on various points in connection therewith.

Sewerage and Outfall Works.—The District is well sewered, and the sewers are extended from time to time, as required, for the drainage of streets and buildings. The sewers are periodically flushed every fortnight, and are in good working order. With few exceptions all the houses have water-closets.

New sewers have been laid in the following streets, where building operations are in progress—Celtic Road, Meols ; Sandringham Avenue, Meols ; Egerton Drive, West Kirby ; Belmont Road, West Kirby. A sewer is in process of construction, from Market Street, along Alderley Road South, across the railway to Carr Lane, which will result in the satisfactory drainage of the Council's Dépôt, and stables ; the Electricity Works, and the Gas Works ; and will also afford facilities for the drainage of any houses that may be built adjacent to Carr Lane, within certain limits. The cost of this sewer will be £300. This work has been specially expedited, to provide useful employment for men out of work.

The new main sewer, mentioned in the last Annual Report, will be commenced probably in February, and will go along Riversdale Road and Meols Drive, to the Dee Lane Outfall. The Local Government Board have sanctioned the laying of this sewer, and also of a new sewer in Graham Road, to be continued under the railway, to Orrysdale Road, West Kirby. This scheme will provide excellent facilities for the drainage of the New Council Schools, Orrysdale Road, and also for a large area of land on the south easterly side of the railway, not yet built on.

All new drains are carefully inspected, and tested before being covered, and all sewers in the District are inspected and flushed periodically. Some are flushed weekly, others fortnightly.

Scavenging.—The District Council undertake the scavenging of the District with their own staff of men and their own carts and horses. New stables and a dépôt have lately been provided for them. The removal of "trade refuse" is made

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daily or otherwise, at a uniform charge. As regards street-scavenging, additional men are employed now, and street orderly boys were added to the scavenging staff in 1903. The dust bins are emptied every week, and the ashpits every two or three weeks.

Private Street Works Act.—During 1907 the following streets were made up and completed under this Act:—Pyecroft Road, Meols; Grosvenor Road, West Kirby; Claremont Road, West Kirby; and 8 passages.

Mr. Tom Robinson, as Inspector of Nuisances, and Inspector under the Factory and Workshop Act, has made a very complete and satisfactory report of the work done in these departments.

Factory and Workshop Act, 1901.—The factories and workshops have been duly inspected. At the close of 1907 the following works were on the Register, viz.:—28 bakehouses, including 2 factory bakehouses; 5 hand laundries, 2 factory laundries, 15 dressmakers, 5 tailors, 9 shoe repairers, 6 blacksmiths and joiners, 4 cycle repairers, and 27 others. There were 121 visits of inspection made during the year, and the defects found were as follows:—There was want of ventilation on 9 premises, there were nuisances on 2 premises, and want of cleanliness on 7. Notices were served, and defects were remedied in every case.

Abatement of Nuisances.—There were 280 nuisances of various kinds dealt with during 1907, viz.:—

Defective ashpits	...	...	...	26
„ drains	..	...	...	17
„ water closets	...	...	...	16
„ gutters and spouting	...	...	...	4
„ ventilation under floors	...	...	...	7
„ soilpipes and drain ventilators	...	...	...	98
„ privy converted to W.C.	...	...	...	1
„ waste pipes	...	...	...	4
„ gullies	...	...	...	3
Blocked drains	...	...	...	20
Insanitary or unpaved yards	...	...	...	15
Blocked water closets	...	...	...	12
„ sewers	...	...	...	3
Accumulations of filth or manure	...	...	...	3
Fowls improperly kept	...	...	...	1
Ashpits abolished and dustbins substituted				20

Hoylake and West Kirby Urban District.

No receptacle for house refuse	...	...	5
Dirty houses	...	...	6
Lack of ventilation to occupied rooms	...	...	6
Damp walls	...	...	5
Insufficient water closet accommodation	...	...	2
Absence of receptacle for manure	...	...	2
Insanitary passages	...	...	2
Overcrowding	...	...	2

The nuisances were all abated, except 8 outstanding, and having attention. No legal proceedings were taken during the year for nuisance or building byelaws.

Number of houses in the District with ashpits	441
„ „ „ dustbins	2,549

The Recreation Ground, which a short time since was laid out for football, cricket, etc., is in regular use. The pavilion which was built at a cost of £130, provides dressing-rooms and sanitary conveniences.

Dairies and Cowsheds.—There are 23 persons registered as dairymen, cowkeepers or purveyors of milk, in the District. The premises they occupy are inspected at least twice a year. The dairies and milkshops are kept very clean. Two cowsheds have been drained, and the approach to two others has been improved.

Slaughter-houses.—There are four licensed slaughter-houses in the District, frequently inspected. Three notices were served for limewashing, and were complied with.

New Houses, etc.—Plans have been passed for 47 new houses during the year (8 were in West Kirby, 8 in Hoylake, and 31 in Meols), 6 shops, 7 stables and motor-houses, 1 workshop, 5 new streets, and 32 alterations and additions.

Isolation Hospital Accommodation.—The District is contributory to the Wirral Joint Hospital Board, having thus excellent accommodation for the isolation of cases of infectious diseases.

Marine Lake, New Parades, &c.—Among the many advantages of this District are the extensive parades constructed along the shore both at Hoylake and West Kirby, the

Hoylake and West Kirby Urban District.

Marine Lake, and the lighting of the District with electricity. All these improvements tend to make the most of the District's great natural attractions.

Meteorological Reports for 1906, are furnished by Mr. Tom Robinson, Asso. San. Int. The station where the observations were taken were at Hoylake, the height above the sea level being 33.7 feet.

1907.	Mean Barometer (inches) at 32° F. (inches).	Mean Tempera- ture (degrees).	Total Bright Sunshine hours.	Total Rainfall (inches).
January ...	30.321	40.2	61.7	0.98
February ...	30.009	38.7	103.6	1.58
March ...	30.153	44.7	181.5	1.56
April ...	29.861	46.6	153.9	1.28
May ...	29.869	51.0	153.0	2.83
June ...	29.808	55.3	146.2	4.26
July ...	30.056	58.2	202.7	2.09
August ...	29.967	58.4	158.5	2.61
September ...	30.145	57.9	132.7	0.45
October ..	29.618	50.5	93.1	4.73
November ...	29.965	45.8	43.4	1.85
December ...	29.708	41.1	43.1	2.12
	29.957	49.0	1477.4	26.34

The mean barometer for the 9 years 1899-1907 was 29.942 inches.

The mean temperature for the 9 years 1899-1907 was 49.0 degrees.

KNUTSFORD

Urban District.

Medical Officer of Health—DR. T. W. H. GARSTANG.

Population at Census, 1901—5,172.

Estimated Population in middle of 1907—6,179.

Area in acres—1,760.

Birth-rate per 1,000 living—23.3.

Death-rate per 1,000 living—11.7.

Death-rate from seven principal Zymotic Diseases—0.9.

Deaths under one year to 1,000 births—97.

By the Local Government Board Order, which came into operation on April 1st, 1895, the Civil Parish of Knutsford was constituted an Urban District.

The population of this Urban District was 5,172 at the Census in 1901, and the population of the corresponding area was 4,643 at the Census in 1891. The increase of the population during the decennium 1891-1901 was thus 529, that is 11.4 per cent. The estimate of the population made for the middle of 1907 is 6,179. From this should be deducted the inmates of the Gaol (525) and Workhouse (360), leaving 5,294. This number plus 21 officials resident in the Workhouse, gives a corrected population of 5,315 on which birth-rates and death-rates are calculated.

During 1907 the number of births registered was 124, and the number of deaths registered was 99. From these deaths must be taken the deaths of 39 persons not belonging to the District, which occurred in the Public Institutions in the District, and to them must be added the deaths of 2 residents which occurred beyond the District.

Infantile Mortality.—Twelve of those who died were under 1 year of age. The following were the causes of death :— 2 whooping-cough, 1 marasmus, 5 convulsions, and 4 bronchitis. The infantile death-rate is unusually low, 97 per 1,000 births.

Illegitimate Infants.—Seven of those born were illegitimate, and of these 1 died. The death-rate amongst illegitimate infants was therefore 14 per cent., while that of legitimate infants was 9.4 per cent.

Coroner's Inquests.—Three inquests were held during the year on persons belonging to the District, viz. : 1 male 43, cut

Knutsford Urban District.

throat, verdict, temporary insanity; 1 male, 2 years, convulsions following scalds; and 1 female, 2 years, pneumonia, want of medical attention.

Cases of Infectious Disease notified.—There were 64 cases of infectious disease notified in 1907, viz.:—4 membranous croup, 1 erysipelas, 52 scarlet fever, 6 enteric fever, 1 puerperal fever. Of these 46 were removed to hospital, viz.:—44 scarlet fever and 2 enteric fever. One of the cases removed as scarlet fever turned out to have diphtheria.

Deaths from Zymotic Diseases.—Five deaths occurred from the principal zymotic diseases, viz.:—1 measles, 1 scarlet fever, 2 whooping cough, 1 enteric fever. This gives a zymotic death-rate of 0.9 per 1,000.

Vaccination.—The Urban District forms, by population, nearly two-thirds of the Knutsford Registration Sub-District of the Bucklow Union. It appears that in 1906 (not 1907), 188 children were vaccinated, out of 199 surviving; 1 being insusceptible, and 2 being lost sight of. The percentage is over 94, and maintains the good repute of the District.

Scarlet Fever continued in an epidemic form until the end of the year. The number of cases in 1906 and 1907 is the largest on record in the District. The type of disease continued to be very mild, which doubtless assisted in spreading infection. There was only one fatal case.

Enteric Fever.—The 4 cases all occurred in the same part of the town, 3 in a small court, and 1 across the road. The people were very poor, the premises dirty, and no care was taken by those in the houses to prevent the spread of infection. One man died of pneumonia, and exhaustion. The man and his children were removed to the Workhouse, as they were in a state of starvation, but the wife was too ill to be removed. She ultimately recovered.

Cancer was the cause of death in six cases, and the rate is therefore 1.1 per 1,000 living.

Phthisis caused 3 deaths, about the average number in the District. The attempt to obtain notification of phthisis has not yet proved successful. Very few cases are notified. The phthisis death-rate is 0.6.

Knutsford Urban District.

Other Tubercular Diseases caused 4 deaths ; this is equal to 0.73 per 1,000.

Alcoholism.—Two deaths are registered as due to this cause, both males.

Heart Disease.—There were 6 deaths from heart disease, equal to 1.1 per 1,000.

Isolation Hospital Accommodation is provided by the Bucklow Joint Hospital Board. Since December 8th, 1902, the new hospital at Baguley has been available. About the same time, the temporary hospital owned by the Bucklow Rural District Council was sold to the Bucklow Joint Hospital Board, and has been since removed to Baguley and re-erected as a temporary small-pox hospital. The District is therefore fully equipped.

Forty-four cases of scarlet fever were removed to the Baguley Sanatorium, and 2 cases of enteric fever to the Monsall Hospital ; all of these recovered. The removals were thus 69 per cent. of the cases, against 54 per cent. in 1906.

Disinfection by Steam.—This can now be obtained by sending the infected bedding, clothing, etc., to Manchester, in a van belonging to the Joint Hospital Board. The expense is, however, considerable, and the plan has not yet been tried in this District.

Systematic Inspection.—The District is so small, and so intimately known to the Medical Officer of Health and Inspector, that it is exceptionally well inspected.

Water-supply.—In the Report for 1902 the following passage occurs :—“At last the boring at Booth Hill has been abandoned. A depth of nearly 2,000 feet was reached, without satisfactory results. The water-supply, therefore, remains as before, taken from a stream admitted on all hands to be polluted, but, so far, not showing any obvious results to the detriment of the public health.”

No steps have been taken to obtain a good water-supply since 1902.

The supply remains ample in quantity, and, although the water does not yield the best possible results on chemical analysis, it stands the test of experience, for no actual illness has ever been attributed to its use.

Knutsford Urban District.

The Peat Pail system was introduced some years ago, and continues to work satisfactorily. In 1906 it was used for 175 houses, and each year some more privies are converted. It is not stated how many were in use in 1907.

Refuse Removal, &c.—The system of “contracting” for this work was, during 1903, replaced by the creation of an official scavenging department under the Council. The result has been a great improvement as regards the removal of refuse.

Inspector's Report.—This has not been given in full for 1907. The Inspector only furnished a few details, including the following:—All infected bedding was disinfected or destroyed, also all houses where cases of infectious disease had occurred were disinfected; 3 schools were disinfected; 1 person was convicted of exposing an infectious person to the danger of the public. Many nuisances were abated, 19 formal notices were served, including one smoke notice. Numerous inspections were made of premises, ash-pits, traps, etc., and in several instances nuisances were abated without formal notice.

Cowsheds and Milkshops were inspected and found in order.

Slaughter houses were also inspected, and found satisfactory.

Factories and Workshops:—The number of work shops is 105, and they were frequently inspected. One want of cleanliness was reported and remedied. The bake-houses are all very clean. They are 9 in number. The remainder are workshops of small size and no importance. There are no home-workers. No bakehouse is underground. Numerous inspections have been made, but no defects were found.

Recreation Grounds.—The District has always been extremely fortunate in the possession of the large open space (about 50 acres), known as The Heath. In addition to this, the Council has recently acquired, by negotiation with Earl Egerton of Tatton, the southern end of “The Moor” (about 5 acres), lying between the old town and the railway embankment. This has been levelled, and fenced. Trees and shrubs have been presented and planted. In the water-logged area, excavation of one part, and consolidation of another were found necessary. A contribution from the Freeholders' Fund will minimise the actual expenditure out of rates.

Knutsford Urban District.

This appears to be one of the greatest æsthetic improvements the District has ever known and will be found of value from a sanitary point of view also.

The recreation ground was, at the close of 1905, practically completed.

Cemetery.—The completion of the Cemetery was noticed in the Annual Report for 1901. The site is an excellent one, on Tabley Hill, about a mile from the town. The grave-spaces number about 4,100.

LYMM**Urban District.**

Medical Officer of Health—DR. E. M. DE JONG.

Population at Census, 1901—4,707.

Estimated Population in middle of 1907—4,940.

Area in acres—4,372.

Birth-rate per 1,000 living—23.2.

Death-rate per 1,000 living—13.5.

Death-rate from seven principal Zymotic Diseases—0.4.

Deaths under one year to 1,000 births—60.

The population of this Urban District was 4,995 at the Census in 1891, and 4,707 at the Census in 1901. The decrease in the population during the decennium 1891-1901 was thus 288, that is 5.76 per cent. The estimate of the population, made for the middle of the year 1907, assumes that the population has increased by 233 since the Census.

The Urban District of Lymm forms part of the northern boundary of the County of Chester, dividing it from Lancashire. It lies about 5 miles eastwards from Warrington. The District consists of a central village with residential and agricultural surroundings. The more central portion of the District, itself somewhat hilly, is surrounded on all sides by plain lands. The population is made up of a residential portion, in business at Manchester (13 miles away) and at Warrington, of shopkeepers, of local operatives (fustian cutters), of artisans, and operatives living in the District and working outside it, and finally of an agricultural portion.

Lymm Urban District.

The house accommodation throughout the District is adequate, and in all cases fit for habitation. The open space around the house is ample, and the surroundings of the dwellings are clean.

In 1907 the number of births registered was 115, and the number of deaths registered in Lymm, including the deaths of 5 residents which occurred elsewhere, was 67. The birth-rate is 0.2 in excess of the average rate in the 10 years, 1897-1906, and the death-rate is about the average in the same 10 years.

There were 2 deaths from the principal zymotic diseases, in 1907, viz.:—1 scarlet fever, and 1 diarrhoea; there was 1 death from croup, 5 were from phthisis, 2 from other tubercular diseases, 7 from cancer, 10 from bronchitis, 2 from pneumonia, 9 from heart diseases, 4 from accidents, and 1 from suicide.

Seven of those who died were under 1 year, and 32 were 65 years old, and upwards.

Infectious Disease notified.—There were 130 cases of infectious disease notified, viz.:—5 diphtheria, 1 erysipelas, 11 scarlet fever, 1 enteric fever, 108 measles, and 4 chicken-pox. None of these cases were removed to hospital. Two deaths occurred, 1 from scarlet fever, and 1 from diphtheria. The Medical Officer of Health considers that the notification of measles has been helpful in preventing its spread, and for the following reasons:—

(1) Notification means one visit at least from a medical practitioner, or the Medical Officer of Health in almost every case. He advises due care, and warns the attendant upon the case to be on the watch for certain symptoms and complications. In many cases, where possible, he attempts home isolation, especially as regards eyes, ears and chests.

(2) In some cases where no medical man is called in, the parent notifies measles to the Medical Officer of Health. He, on visiting, finds that the “measles” is scarlet fever, and by taking suitable precautions may probably check the spread of that disease.

(3) For statistical purposes, to compare incidence and fatality.

Lymm Urban District.

Vaccination.—From returns furnished by the Vaccination Officer for the District, it appears that over 95 per cent. of the children whose births are registered in the District are vaccinated.

Disinfection and Isolation.—Disinfection is still effected by spraying with formalin, and seems satisfactory. Such articles as cannot be so disinfected, or be boiled are, by arrangement with the Warrington Authority, disinfected by steam. In the case of enteric fever the attendants upon the patient are warned that all the dejecta, urine, vomited matter, and fæces are sources of infection, and must be well mixed with strong carbolic acid before removal.

Isolation Hospital Accommodation.—The Isolation Hospital has not been in use this year. It is inspected from time to time, and always kept ready for use.

Antitoxin Supplied.—The Medical Officer of Health has been directed by the District Council always to have in hand a supply of diphtheria antitoxin, to be at the command of medical practitioners belonging to the District in an emergency.

Bacteriological Diagnosis.—The District Council have adopted the suggestion of the Medical Officer of Health in his Annual Report for 1902, and made arrangements with the Pathological Department of the Victoria University of Manchester for the examination of the blood in suspected cases of typhoid fever, and for the examination of morbid products from the throat in suspected cases of diphtheria. The arrangements made will, doubtless, be of much use to medical practitioners, and to the Authority.

Ambulance.—It is now reported that a suitable vehicle has been provided to convey infectious patients to hospital.

No Small-pox Hospital has yet been provided.

Water=supply.—The town's water, which is supplied by a company, has been from time to time examined by the Medical Officer of Health and by an independent analyst. The results show that it is a pure potable water. There are several sources of water-supply, which are not above suspicion. It is to be regretted that several cottages are dependent upon surface wells, when good town's water could be laid on.

Lymm Urban District.

New Houses.—During the year 1907 plans for 13 new houses, chiefly of the small semi-detached villa class, were passed, as against 9 last year, and 28 in 1905.

No houses have been condemned as unfit for habitation during the year.

Plans of all new buildings must be submitted to, and approved by the Urban District Council.

Dairies, Cowsheds and Milkshops.—These are 20 in number. They have been regularly inspected and found in good condition. In no case is any other commodity sold than milk or dairy produce.

Slaughter houses.—All are registered. They are six in number, only 4 in actual use.

Factory and Workshop Act.—There are 12 factories, 47 workshops, and 3 workplaces in the District.

One hundred and sixty inspections have been made during the year, and the following suggested points investigated:—cleanliness, limewashing, air-space and ventilation. All were satisfactory. There are no home-workers in Lymm.

Of the 13 bakehouses in use, one only is underground. All the bakehouses, on inspection, fulfil the necessary requirements of cleanliness, drainage, light and ventilation.

Removal and Disposal of House Refuse.—House refuse is deposited in ashpits which are emptied by public scavengers, at intervals varying according to the size of the ashpit.

In 1907, 5,637 ashpits were emptied, and the number of loads removed was 1,542.

Ashes and refuse are conveyed by the Council's servants to a tip. Night soil is made use of by the farmers.

Sewers.—The main sewers are in good order, and are flushed with town's water every fortnight.

The Ejector at Heatley is at present giving satisfaction.

Lymm Urban District.

Outfall Ground.—This is kept under supervision, and continues satisfactory. Samples of effluent analysed by the Mersey and Irwell Joint Committee have been reported on as “good.”

No Common Lodging-houses are in the District.

Offensive Trades.—There is a brick-yard and also a bone works in the District. They are near together, and situated in a sparsely populated part. They are inspected and cause no nuisance.

Inspector's Report.—Mr. Mort, the Inspector, reports that during 1907 he made 160 sanitary inspections; in 11 instances house-drains have been put in order, 4 privies have been altered, or re-constructed, and 17 premises disinfected.

Canal Boats.—Thirty-five visits of inspection were made, but no infringements were found.

MARPLE

Urban District.

Medical Officer of Health—DR. H. BURTON.

Population at Census, 1901—5,595.

Estimated Population in middle of 1907—5,750.

Area in acres—3,054.

Birth-rate per 1,000 living—20.1.

Death-rate per 1,000 living—14.1.

Death-rate from seven principal Zymotic Diseases—0.3.

Deaths under one year to 1,000 births—120.

This Urban District takes in Barnes Fold, Hawk Green, Middlewood, and Windlehurst.

The population of the entire District was 4,844 at the Census in 1891, and 5,595 at the Census in 1901. The increase in the population during the decennium 1891–1901 was thus 751, that is 15.5 per cent. The estimate of the population made for the middle of the year 1907 is only 155 in excess of the Census population. This estimate is so low owing to the completion of the Midland Railway Tunnel running through part of the District, and the departure of workmen lodged in railway huts, since closed.

Marple Urban District.

Marple lies on a subsoil of clay, with occasional deposits of sand and gravel.

The village of Marple is situated on a hill, which at its highest part is about 600 feet above sea level. The natural drainage does not permit of water lodging, so that Marple is fairly dry and healthy.

The chief industry in Marple is cotton manufacturing (confined to two mills), and the remainder of the District consists largely of residential property, erected by people who have businesses elsewhere. The cottage property is of good class, with very few exceptions, and the people are clean, healthy and tidy.

In 1907 the number of births registered was 116, and the number of deaths registered in the District was 79. The birth-rate was about the same as in 1906, and the death-rate was 2.4 higher.

There was 1 death from whooping-cough, 1 from scarlet fever, 2 from epidemic influenza, 1 from enteritis, 1 from puerperal fever, 9 from phthisis, 3 from cancer, 10 from bronchitis, 1 from pneumonia, 2 from alcoholism, 3 from premature birth, 1 from disease or accident of parturition, 12 from heart diseases, 4 from accidents, 1 from suicide, and 3 from cerebral hæmorrhage.

Cases of Infectious Disease notified.—There were 28 cases of infectious disease notified, viz. :—25 scarlet fever, 2 erysipelas, and 1 puerperal fever.

Scarlet Fever.—An outbreak of scarlet fever began in the hamlet of Strines, towards the end of the year, and spread to Marple. The children at Strines attend a school outside Marple District. Most of the cases were removed to Hyde Hospital. Otherwise the District has been remarkably free from infectious disease throughout the year.

Phthisis.—Nine deaths from phthisis is a large number, but they are accounted for by the fact that many who suffer from this disease come to Marple, hoping to benefit their health.

New Buildings.—During the year plans for 93 houses, and 10 alterations, were passed. All the new buildings have been provided with water-closets.

Water=supply.—This is obtained in bulk from the Stockport Corporation filters at High Lane, and is daily pumped

Marple Urban District.

into the service reservoir at Wybersley. It has been satisfactory as regards quality, but in a dry season the quantity is insufficient. During 1907 there was at no time a shortage, owing to the wet weather. The consumption per head is 9.74 gallons per day.

Dairies, etc.—There are 67 dairies and cowsheds on the register. The Inspector is at present making a special inspection, on which he will report to the Council when he has completed it.

Factories and Workshops.—There are 11 factories and 28 workshops, besides 9 bakehouses, 2 of which are underground. There were 3 defects found in the bakehouses, and 4 in other workshops. All are regularly inspected.

Slaughter-houses.—There are 5 in the District. All are regularly visited, and were found clean and in good condition as a rule. Some were licensed by the Council, but they are situated too near dwellings. In one case a manure pit required repair.

Refuse Removal in Marple Village has been done, since April 1st, 1906, by the District Council's men and appliances. As a result the work has been better done and cost less. It is getting more difficult every year to find land on which refuse may be tipped, without creating a nuisance. The only alternative way of disposing of the refuse will be to provide a destructor to burn it.

The Main Sewers have been flushed, and the whole of them found in a satisfactory condition except the one in Lower Cross Lane, which has not much fall, and in which silt always accumulates. This sewer will require special attention as soon as the extraordinary traffic from the Brick works is taken off the road.

Some portions of the District are still undrained, but this will be rectified ere long.

The Sewers have been extended at Hawk Green during the year, the length being about 200 yards, the cost being about £115. The Council have also decided to again extend this sewer to Hill Top.

Several complaints of smells from the Sewers were received during the year and the Council decided to erect 2 Sewers Ventilating Shafts at the corners of Willow Grove and Cross Lane. These Shafts will no doubt prevent the smells recurring at these points.

Marple Urban District.

The Sewage Outfall Works.—These require a good deal of alteration if they are to deal efficiently with the increasing amount of sewage which is passed through them. The dead ends of sewers, and important junctions need ventilation.

Inspector's Report.—Mr. Diver Reports that of 192 nuisances the greater number have been abated, and it was only necessary to serve one notice. The nuisances found were as follows:—73 defective drains, 52 defective privies, 15 insanitary ashpits, 2 accumulations of refuse, 32 structural defects, and 18 defective pavings. A large number of privies have been, or are being, converted into W.C's.

Smoke Nuisances.—Twenty observations have been made, and in no case was the 8 minute limit exceeded. It appears hardly fair that the limit, 8 minutes, should be the same for works with only one boiler, and for those which use 7 or 8.

Canal Boats.—There are 85 boats on the register; 42 were visited, and 3 infringements were discovered.

Recommendations.—The Medical Officer of Health again draws attention to the need for compulsory notification of phthisis and measles; to the great inconvenience caused by the need of a steam disinfecter; and to the importance of having a proper van for flushing the sewers. The flushing cannot any longer be satisfactorily done without a van.

MIDDLEWICH**Urban District.**

Medical Officer of Health—DR. T. W. H. GARSTANG.

Population at Census, 1901—4,669.

Estimated Population in middle of 1907—4,950.

Area in acres—1,082.

Birth-rate per 1,000 living—28.9.

Death-rate per 1,000 living—15.9.

Death-rate from seven principal Zymotic Diseases—1.6.

Deaths under one year to 1,000 births—98.

By a Local Government Board Order, which came into operation on April 15th, 1893, the Middlewich Urban District

Middlewich Urban District.

was extended to include parts of the Civil Parishes of Byley, Newton and Kinder-cum-Hulme, which were added to Middlewich Civil Parish on September 30th, 1904.

The population of the Urban District was 4,669 at the Census in 1901, and the population of the corresponding area was 3,970 at the Census in 1891. The increase in population during the decennium 1891-1901 was thus 699, that is 17.6 per cent. The estimate of the population made for the middle of 1904 is based partly on the assumption that the population has continued to increase much at the same rate, partly on actual knowledge as to the state of trade, and partly on unoccupied property, new houses built, &c. The estimate for the middle of 1907, was 4,950.

In 1907 the number of births registered was 143, and the number of deaths registered in the District was 70. To these deaths must be added, the deaths of 9 persons which occurred outside the District, viz. :—4 in Northwich Workhouse, 3 in the Albert Infirmary, 1 in Davenham Isolation Hospital, and 1 in Manchester Royal Infirmary, making a total of 79.

The Middlewich birth-rate in 1907 is 6.3 below the average in the 10 years 1897-1906, and the Middlewich death-rate in 1907 is 0.6 below the average in the same 10 years.

Illegitimate Infants.—Six of those born were illegitimate, a birth-rate of 4.2 per cent. ; of these 2 died, making a rate of 33 per cent. of illegitimate infants' deaths, to 9 per cent. of legitimate infants' deaths.

Coroner's Inquests.—6 were held in the District, and 1 in the Albert Infirmary. F., 46 years, shock, following accidental burns ; F., 2 years, meningitis, following a fall ; M., 23 years, found dead in bed, heart disease ; F., 55 years, heart disease ; F., 6 years, pneumonia (scarlet fever) ? ; M., 13 years, tubercular peritonitis ; F., 91 years, shock, following a fall.

Infantile Mortality.—Fourteen of those who died were under 1 year of age. This is barely equal to 98 per 1,000 births, as against 156 per 1,000 for the 10 years 1897-1906, a remarkably low rate.

Infectious Disease notified.—There were 56 cases of infectious disease notified in 1907, viz. :—37 diphtheria, 8

Middlewich Urban District.

erysipelas, 10 scarlet fever, and 1 puerperal fever. Of these, 25 cases of diphtheria, and 5 cases of scarlet fever were taken to hospital.

Zymotic Diseases.—There were 8 deaths from the principal zymotic diseases, viz. :—3 measles, 4 diphtheria, and 1 diarrhœa. In 1906 there were 15 deaths, and in 1905 17 deaths, from zymotic disease, so the number in 1907 shows considerable improvement.

Scarlet Fever cases were scattered throughout the year, no deaths occurred.

Diphtheria was again prevalent. This is the sixth year in succession during which the District has suffered considerably from this disease. The Medical Officer considers that the insanitary conditions prevailing in some of the older parts of the Town are responsible for its continued prevalence.

Cause of Diphtheria in Middlewich.—The Medical Officer of Health believes that diphtheria was, in the first instance, introduced into the town, and that local conditions are probably responsible for the continuation of the disease. The ground upon which some of the old parts of the town stands is undoubtedly “insanitary,” from the existence of numerous privy-middens of faulty construction, and the general condition of much of the old cottage property, due to faulty designs in the first place, and aggravated by a short water supply, and imperfect drainage. This must lower the resistance of the population, and render it specially liable to diphtheria when once introduced.

Bacteriological Examinations of “swabs” from the throats of doubtful patients were only asked for once or twice.

Diarrhœa and Enteritis.—A death from gastro-enteritis (child, 1½ years) occurred in August, and one from gastro-enteritis, collapse, (child, 2 months), late in December.

Erysipelas.—8 notifications ; 1 death ; a child, 3 years of age ; no explanation. Four deaths have now occurred in 18 years, among 125 cases.

Measles.—An epidemic appeared early in September, which necessitated the closing of the Roman Catholic School, and of the Infants’ Department of the Council School. Two female teachers were appointed as “health visitors,” on September 10th,

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and acted under the Medical Officer's instructions. Each infected house was visited daily; mothers were exhorted to keep sick children in bed a sufficient length of time, and to take extra precautions afterwards in the matter of clothing and avoidance of chill; and infected families were isolated as far as possible. Nearly 400 cases were known. One death occurred on August 27th, before the epidemic was recognised; no other death occurred while the lady visitors were on duty; two more occurred (October 31st and November 9th) shortly after they were withdrawn. One of these was a delicate child, which might have died in any event. In each case, the immediate cause of death was pneumonia.

Vaccination.—With the assistance of the Vaccination Officer, the Medical Officer of Health is able to give the figures for the Middlewich Sub-District of the Northwich Union (of which the town of Middlewich forms about two-thirds) for a period of ten years.

Year.	Number of Births Registered.	Successfully Vaccinated.	Insusceptible.	Had Small-pox.	Dead. Unvaccinated.	Postponed on Medical Certificate.	Removed, and Traced.	Removed, and Lost.	Conscientious Objections.	Unaccounted for.
1896	269	242	—	—	21	3	—	3	—	—
1897	267	234	1	—	23	2	1	3	3	—
1898	240	204	1	—	21	4	1	4	4	1
1899	219	184	3	—	23	1	1	3	1	3
1900	250	210	1	—	26	—	1	5	3	4
1901	225	195	2	—	22	—	2	—	3	1
1902	256	227	—	—	23	2	1	1	1	1
1903	246	211	—	—	23	1	—	6	2	3
1904	228	189	1	—	27	2	6	—	2	1
1905	228	205	1	—	15	3	—	3	1	—
Total in 10 years	2428	2101	10	—	224	18	13	28	20	14
1906	244	212	—	—	24	1	2	2	2	1

It will thus be seen that in 1906 there were 212 children successfully vaccinated out of those surviving, *i.e.*, over 96 per cent. During the ten years 1895-1906 the percentage is 95.

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Hospitals for Infectious Diseases.—The Northwich Joint Hospital Board has completed and opened an excellent modern Sanatorium at Davenham, in the Rural District, and Dr. Moreton, of Middlewich, has been appointed Medical Officer. The cases sent in have been already referred to, 25 diphtheria, and 5 scarlet fever. This is nearly 54 per cent. of cases notified. The Board proposes to use the Wooden Hospital at Marbury, formerly belonging to the Rural District Council, for small-pox.

Phthisis caused 7 deaths, a rate of 1.4. It is not easy to obtain notification of phthisis, although it is notifiable in the District.

Other Tubercular Diseases account for 7 deaths, all of infants, or children under 13.

Cancer caused 4 deaths—1 male, and 3 females.

Respiratory Diseases were the cause of 13 deaths, a rate of 2.6 per 1000.

Alcoholism is the cause of 1 death, a man of 43.

Heart Diseases caused 13 deaths, 2.6 per 1000.

Water-supply.—The District Council having decided to try and supplement their Sproston supply from the water bearing strata of the New Red Sandstone, their Engineer ascertained when such a supply might be expected, and through the aid of the Right Hon. Sir John Brunner, M.P., permission was given by the Woods and Forests Department to bore on the Crown Estate at Delamere. The results proved satisfactory, as far as could be judged by a trial pumping with temporary machinery. A scheme was submitted and approved by the Local Government Board to erect a pumping station, reservoir, and caretaker's house on the site acquired from the Crown, and to convey the water through an 8-inch pipe to Middlewich. Early in 1907 this undertaking was brought to a successful conclusion, and the District now enjoys the advantage of a public supply of water (from the Red Sandstone in Delamere Forest) of excellent quality, and in quantity more than sufficient for its present needs. This must have a beneficial effect on the sanitary condition of the town, and on the health of its inhabitants, though it is too soon yet to be able to recognise it.

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Sewerage and Sewage-disposal Scheme.—A comprehensive scheme has been approved by the Local Government Board, and contracts for carrying out the work have been let. The site for the Disposal Works has been purchased, and constructing the works will be proceeded with promptly. The District Council hope soon to be able to comply with the requirements of the County Council as regards the prevention of Rivers Pollution. The Local Government Board have still under consideration the application of the District Council for approval and borrowing powers for carrying out extensions in their sewers. The heavy indebtedness of the town is the only obstacle to these much needed improvements.

Dairies and Cowsheds.—These have received attention. There were 84 visits paid by the Inspector.

Slaughter-houses.—These are under constant observation by the Inspector, and have all been visited by him. Thirty visits were made in 1907.

Factories and Workshops.—A large part of the official Home Office Table is not required for this Report, and the Medical Officer has accordingly condensed it. Factories have been visited on many occasions, and all have been found fairly satisfactory. There was one case of failure to affix Abstract of the Factory and Workshop Act, and 1 report (of action taken) sent to H.M. Inspector. There were 30 inspections of factories, and 108 of workshops during 1907.

The Sanitary Inspector's Report has not been presented for 1907, but he gives some details about his work. His inspections and observations numbered in all 1771. Of these 474 were connected with insanitary conditions of dwelling-houses or schools, and 474 had to do with house drainage. He visited the common lodging houses 12 times, and the canal boats 79 times. Ten formal notices were served, and 27 nuisances abated after notice. The number abated without notice is not stated.

Peat Pail System.—The number of pails used continues to increase there being now 271 pails in use, or an increase of 47 during the year.

MOTTRAM

Urban District.

Medical Officer of Health—DR. W. E. S. BURNETT.

Population at Census, 1901—3,128.

Estimated Population in middle of 1907—3,200.

Area in acres—1,084.

Birth-rate per 1,000 living—17.1.

Death-rate per 1,000 living—13.7.

Death rate from seven principal Zymotic Diseases—0.3.

Deaths under one year to 1,000 births—54.

The population of this Urban District was 3,270 at the Census in 1891, and 3,128 at the Census in 1901. Thus, during the decennium, 1891-1901, there was a decrease in the population of 142. It is estimated that the population has decreased by 38 since the Census. In 1906 there were 17 cottages pulled down, which belonged to the Broad Mills Company, but most of the occupants were housed in other parts of the District. During 1907, the number of births registered was 55, and the number of deaths registered (including 4 deaths of persons belonging to the District registered elsewhere) was 44. The birth-rate is 5.1 below the average in the District in 1897-1906, and the death-rate is 0.9 below the average in the District in 1897-1906.

Infantile Mortality.—Three of those who died were infants who had not completed their first year. This number is equal to 54 per 1,000 births. Of the 3 deaths, one was due to injury at birth, and the one to pneumonia. This death-rate is the lowest on record, since the District was made a Sanitary Authority, in 1874.

Illegitimate Births.—Two of those born were illegitimate, and both infants survived at the end of the year.

Coroner's Inquest.—During 1907 only 1 inquest was held—on a woman, aged 61, who died of heart disease, at Blackpool.

Cases of Infectious Disease notified.—There were only 6 cases of infectious disease notified, all scarlet fever. These 6 cases could not be accurately traced, but probably were infected from cases in the Broadbottom District, towards the end of 1906.

Preventing the Spread of Infectious Disease.—On receipt of notification of infectious disease the premises are

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examined, and where defects are found the owners are served with notices to remedy them. The patients are isolated, as far as possible, and their clothes and bedding disinfected by the Inspector. Such disinfectants as are required, while the patients are ill, are gratuitously supplied. The parents of children suffering from infectious disease are given a printed paper, specifying the precautions which should be observed in each case, and instructed to prohibit all other members of the family from attending school, and other people's children from entering the infected house, until all risk of infection is over. Information is given to the school-master.

Isolation Hospital.—The Small-pox Isolation Hospital was erected in 1903, and ready to receive patients in October. It was provided jointly by Hollingworth and Mottram Urban Districts and Tintwistle Rural District. A nurse was appointed, and a suitable ambulance obtained.

Owing to the long immunity from small-pox, and the urgent need for an ordinary Infectious Diseases Hospital, the District Council have decided to use the hospital henceforth for infectious cases, other than small-pox, and they have agreed with Ashton-under-Lyne and District Joint Small-pox Hospital Board for the reservation of a bed at the Small-pox Hospital, and an undertaking from the Board to treat additional patients, provided they have accommodation at the time.

Infectious Disease (Prevention) Act, 1890.—This Act has been adopted by the District Council, and came into force in June, 1903.

Public Health Acts (Amendment) Act, 1890.—Part 3 of this Act (containing sanitary and other provisions, likely to prove useful) was adopted by the Council during 1901.

Water=supply.—The public supply, which is taken from the Manchester Corporation Reservoirs (Arnfield Springs), is good and plentiful. A few houses are supplied from wells.

No Milkshops are in the District. Milk is obtained from surrounding farms.

Cowsheds.—A thorough inspection of all the cowsheds in the District was made during the year, and a special report issued thereon.

Mottram Urban District.

Common Lodging-house.—The only lodging-house in the District has been frequently inspected, and found clean and in order.

Offensive Trade.—The only offensive trade is that carried on at a knacker's yard, which has been frequently inspected. On one occasion a defect was pointed out, which was immediately remedied. Last summer noxious smells were complained of, arising from bone boiling. On the advice of the District Council fresh premises have been erected for this purpose, a distance from the high road and the village.

Cowsheds and Slaughter-houses have been inspected and generally found clean. In some instances improvements have been made in lighting, drainage, and ventilation.

The Factory and Workshop Act, 1901, has had attention. There are 4 factories and 36 workshops in the District, all duly registered. Three of the factories are (in size) practically only workshops. Most of the workshops are of a domestic character, and the business premises generally consist of a separate room in the dwelling-house. In this room only one person is often engaged. All premises are periodically inspected by the Medical Officer of Health and Sanitary Inspector. All were found in perfect order.

New Property.—There was one new shop erected during the year in Broadbottom, a golf pavilion, a gas holder for the Broadbottom Gas Company, and alterations and additions were made to Manor House.

Improvements on a considerable scale have been made by the Broad Mills Company to their property, by pulling down seventeen houses, which were without back doors, or proper ventilation; erected sixty new closets, ashpits, and coal places—each house has now a separate closet and back yard. All drains have been re-constructed, with cement joints, and properly trapped.

Sewage Works.—The method of treatment is by tanks, filters, and land. The Mersey and Irwell Joint Committee's Inspector reported upon the samples taken as good and fair effluents.

Refuse Removal.—The emptying of middens, etc., has been efficiently carried out by the contractor, under the supervision of the Inspector. The middens, etc., are emptied monthly.

Mottram Urban District.

Abatement of Nuisance.—The Sanitary Inspector, Mr. S. Hudson, reports that insanitary conditions discovered in the course of systematic inspection have had his attention, and for the most part have been adapted. A number of the nuisances were due to drains being defective or obstructed, and these drains have been put in order.

The laying of new drains with sanitary pipes, instead of the old stone drains, has been carried out on several properties. On the premises of Messrs. Ogden, Rowarth and Morris, an old stone drain, which had frequently become choked, and caused a nuisance, was thus re-constructed.

NANTWICH**Urban District.**

Medical Officer of Health—DR. J. D. MUNRO.

Population at Census, on April 1st, 1901—7,722.

Estimated Population in middle of 1907—7,902.

Area in acres—703.

Birth-rate per 1,000 living—26.7.

Death-rate per 1,000 living—15.6.

Death-rate from seven principal Zymotic Diseases—0.6.

Deaths under one year to 1,000 births—146.

The population of this Urban District was 7,412 at the Census in 1891, and 7,722 at the Census in 1901. Thus during the decennium, 1891-1901, the population increased by 310, that is about 4 per cent. The estimate of the population made for the year 1907 (7,902), is probably as nearly correct as possible.

During 1907 the number of births registered in the District was 211, and the number of deaths registered in the District was 113. To the latter must be added the deaths of 11 persons belonging to the District, who died in the Workhouse Hospitals. The birth-rate is 3.1 below the average in 1897-1906, and the death-rate is 2.7 below the average in the same ten years.

Thirty-one of those who died were infants, under 1 year old, and 33 were persons 65 years old, and upwards.

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There were 3 deaths from scarlet fever, 2 from diarrhoea, and 2 from epidemic influenza. There were 7 from phthisis, 2 from other tubercular diseases, 3 from cancer, 17 from bronchitis, 9 from pneumonia, 1 from alcoholism, 8 from premature birth, 14 from heart diseases, and 4 from accidents.

Infant Mortality.—Thirty-one of the deaths registered were those of infants under 1 year old, viz.:—8 premature birth, 6 infantile debility, 4 marasmus, 3 meningitis, 2 bronchitis, 2 diarrhoea, 2 spina bifida, 1 rickets, 1 teething, 1 convulsions, and 1 accidentally suffocated.

The infant mortality, which is at the rate of 146 deaths under 1 year to 1,000 births, is still high, but lower than many of the previous years. Nearly half of the deaths were ascribed to premature birth and infantile debility.

Infectious Disease notified.—There were 124 cases of infectious disease notified, viz.:—7 diphtheria, 5 erysipelas, and 112 scarlet fever. Three cases of diphtheria, and 66 cases of scarlet fever were removed to the Isolation Hospital. There were three deaths from scarlet fever.

Scarlet Fever.—The outbreak of scarlet fever, which began in July, continued almost without interruption to the end of the year. The disease upon the whole was of a mild type, and this was probably the chief cause of the spread of infection, some of the cases having been so mild that parents scarcely noticed that the child was ill, and did not call in a medical man. Four such cases came under notice, where children were mixing freely with their companions whilst peeling, and in a highly infectious state, and in one case a junior teacher at one of the public schools was attending to her duties whilst in this condition.

It was considered advisable to close the public schools during the first three weeks of October, and this appeared, for a time to check the spread of the disease. In November, a large number of cases were reported, and the schools were again closed at the end of November for one month, and disinfected.

Disinfection of rooms has been carefully carried out with a solution of chlorinated lime, with satisfactory results. Infected bedding was removed to the Isolation Hospital and there treated in the disinfector.

Nantwich Urban District.

Isolation Hospital.—The new Joint Isolation Hospital provided for Nantwich Urban and Rural Districts, was formally opened for the reception of patients in October, 1906, and has been of great service during the epidemic of scarlet fever. At the same time, it has shown that during a serious epidemic a hospital of this size is unable to accommodate all the cases which it is necessary to remove there for treatment, and in many of the cases which were refused admission the isolation in their own homes was far from satisfactory.

The public have been most willing to make use of the hospital.

The Small-pox Hospital has been kept aired, and in readiness for use, but has not been required during the year.

Diagnosis of Diphtheria and Enteric Fever.—The cost of examining pathological material from doubtful cases of diphtheria and enteric fever is paid for by the District Council. The work is done at the Pathological Diagnosis Department of the Liverpool University.

Diphtheria Antitoxin is provided free for the treatment of diphtheria amongst the poor, and was supplied to 3 cases during the year.

Phthisis was the cause of 7 deaths, giving a death-rate of 0.88 per 1,000 living.

Bronchitis and Pneumonia caused 26 deaths, giving a death-rate of per 1,000.

Heart Diseases.—There were 14 deaths from heart diseases, being a death-rate of 1.77 per 1,000.

Inquests.—There were 8 inquests held during the year. The following were the causes of death:—1 heart failure, from alcoholism, 1 heart failure, 1 exhaustion, following rickets, 1 suffocation in bed, 1 fractured thigh, from a fall, 1 complications following scarlet fever, 2 cases of convulsions.

The Infectious Disease (Prevention) Act, 1890, was formally adopted in the Autumn of 1900. It gives increased control over the milk supply, and increased powers of disinfection. It prohibits the retention of dead bodies in certain

Nantwich Urban District.

cases, and gives Justices power in certain cases to order dead bodies to be buried. It also gives them power to order an infectious person, without proper lodging or means of isolation, to be detained in hospital until free from infection. It forbids the throwing of infectious rubbish into ashpits.

Private Street Works Act, 1892.—Albert Street has been sewered and made up under the provisions of this Act.

Water-supply.—The Council resolved to consider the question of supplementing the present water-supply. Negotiations for acquiring a site for the construction of new waterworks have extended over the past two years, and are not yet completed.

With the increased use of water for sanitary purposes, it has been found difficult to maintain a full supply of water to the town from Baddiley Waterworks, and the pressure of water has at times been very defective.

The storage capacity at Baddiley Waterworks has been found to be quite inadequate.

Owing to the heavy rainfall the water-supply in 1907 was more abundant than in 1906.

Babies' Day Nursery.—In last year's annual report special mention was made of the high rate of infant mortality in the District, to a considerable extent, to the neglect of children during their early life, attributable, where the mothers worked all day in a factory. Mrs. Cotton-Jodrell very kindly offered in July to start a Babies' Day Nursery, for the children of those who went out to work, and rented a house near the factories in Cowfields for this purpose. The cost of this is defrayed by Mrs. Cotton-Jodrell, with the exception of a small charge of twopence per day which is made for each child.

This undertaking has proved very successful. At present about 16 children are nursed there each day, and it is probable that a larger house will soon be required.

Parish Nurse.—The need of a trained nurse to visit among the poor, and instruct them as to the management and feeding of their children, has been satisfactorily settled,

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by the Baroness Schröder having provided, free of cost to the people of Nantwich, a Parish Nurse, who spends part of each day in this work.

Sewage Disposal Scheme.—The negotiations between the Council and different property owners concerned are still proceeding, and it is hoped will shortly be concluded.

Sewers.—Several new lengths of sewers have been laid down. A length of sewer in Pillory Street, across Elm House grounds to the existing outfall of the sewer, provides an outlet for the drainage from the new street alongside the Railway Hotel, and also drains that basement. A short length in Wellington Road has been extended from the present main, to pick up the drainage from Cronkinson. A new length was also laid beside the Rifleman Inn, and nearly half a mile of surface water sewer has been laid on the Barony, which entirely prevents the flooding which occurred there previously. All the old sewers which were removed were found in a very defective state. The sewers in the town have been periodically flushed, and stoppages have this year been less frequent.

Abatement of Nuisances.—Forty-three notices were served upon property owners to abate nuisances, and were all complied with.

Common Lodging-houses receive attention. There are 5 on the register. There does not appear to be any necessity for increasing the number at present. They have been regularly visited and found to be clean and orderly. No infectious disease or overcrowding has occurred.

Dairies and Cowsheds.—There are 12 dairies and cowsheds in the District. All have been inspected frequently, and found in good order.

Slaughter-houses.—There are 12 in the District. They have all been regularly inspected and, with one exception, were found well-kept. The tenant of one house was summoned for having his premises in a dirty condition, and fined.

As has been previously pointed out, not one of the existing slaughter-houses meets the requirements of the Local Government Board. A public abattoir in the District would be of much service.

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Factories.—There are four clothing factories, and four shoe factories in the District. The sanitary accommodation at all of these is now satisfactory.

Canal Boats.—The Inspector reports that he has inspected 41 Canal Boats during 1907, and found 5 which required repairs. Steps were taken to insure that the work was done.

The Baths and Wash-houses Act was adopted in 1904.

Nantwich Urban District Council Act received Royal Assent on 21st July, 1903. It contains important provisions as to milk, infectious diseases, and sanitary matters generally.

NESTON AND PARKGATE**Urban District.**

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—4,154.

Estimated Population in middle of 1907—4,502.

Area in acres—3,267.

Birth-rate per 1,000 living—29.3.

Death-rate per 1,000 living—15.8.

Death-rate from seven principal Zymotic Diseases—1.7.

Deaths under one year to 1,000 births—128.

The population of the Urban District was 3,577 at the Census in 1891, and 4,154 at the Census in 1901. The increase in the population during the decennium, 1891-1901, was thus 577, that is, 16.1 per cent. The estimate of the population made for the middle of the year 1907 is arrived at by adding to the Census population five-tenths of the increase during the decennium 1891-1901.

The Census population of the three Wards is as follows:—

Leighton and Parkgate	...	1,061
Little Neston	...	1,225
Neston ...	...	1,868

Neston and Parkgate Urban District.

During 1907 the number of births registered was 132, and the number of deaths registered was 63. To the latter must be added 8 deaths of persons belonging to the District, which took place in public institutions beyond the District. The deaths belonging to the District were therefore 71. The birth-rate is 0.8 below the average in 1897-1906, and the death-rate is 0.7 below the average in 1897-1906.

Seventeen of those who died were infants who had not completed their first year, and 21 were persons upwards of 65 years old.

Among the causes of death were 1 from measles, 6 from whooping-cough, 1 from diarrhoea, 1 from enteritis, 5 from phthisis, 1 from other tubercular diseases, 7 from cancer, 2 from brouchitis, 6 from pneumonia, 4 from alcoholism, 6 from premature birth, 3 from diseases or accidents of parturition, 6 from heart diseases, 2 from accidents, and 1 from suicide.

Cases of Infectious Disease notified.—There were 7 cases of infectious disease notified, viz.:—3 from scarlet fever, and 4 from enteric fever. All these cases were removed to the Isolation Hospital; the four cases of enteric fever occurred in one family. The cottage where these cases occurred was one of a row, which had lately been supplied with pedestal water-closets.

Mumps and Whooping-cough.—Owing to the prevalence of these diseases the schools were closed for some weeks, in spring, and again in the early summer.

Inspection.—The Medical Officer of Health made a detailed inspection of Neston and Parkgate in May, and of Little Neston, and the Colliery Village in November, and noted considerable improvement in the general sanitary condition, especially as to cleanliness, and proper keeping of backyards, and spaces around houses.

Water-supply.—The District has a good supply from its own waterworks, the water being derived from deep wells. The water is of very high organic purity.

Sanction has been obtained from the Local Government Board to borrow £378, for laying a new 4-inch cast-iron main, in Hinderton Road, 1,100 yards long.

Neston and Parkgate Urban District.

New Houses.—Twenty new houses have been built during the year and supplied with water.

Sewerage and Outfall Works.—Neston and Parkgate are sewered, and the extensions needed are provided from year to year.

The new sewer referred to in last year's Report, for which a loan was sanctioned by the Local Government Board, has now been laid in Hinderton Road, from Gladstone Road to the Shrewsbury Arms, consisting of 373 yards of 15-inch pipe, and 1,090 yards of 12-inch pipe.

The outfall works consist of detritus tanks, septic tanks, and primary and secondary contact beds. A roughing filter is also provided for the storm water.

Sewage Flushings.—Automatic flushing tanks are provided at the dead-ends of the sewers. The sewers are all flushed periodically.

Sewer-ventilation is provided for by surface grids, and upcast shafts.

Refuse Removal.—The disposal of excreta is still largely done by means of combined ashpit privies. The emptying and cleaning is done monthly (occasionally twice a month) by the District Council's employees. During the year 2,722 tons of refuse were removed to the tips or to agricultural land.

The District Council have under consideration the erection of a destructor, as it is not easy to find suitable places for tipping refuse within a convenient distance.

Building Bye-laws.—The model bye-laws of the Local Government Board, with respect to new streets and buildings, have been in force since 1893.

Report of Inspector and Surveyor.—Mr. Senior, the Inspector and Surveyor, makes a very careful and satisfactory report. He has received 8 complaints during the year, which were attended to. He has made 351 inspections of houses, premises, &c., and 968 re-inspections. In 20 instances notices were issued for the sanitary amendment of premises. There were 12 houses cleansed, repaired, or whitewashed, the drains of 45 houses were

Neston and Parkgate Urban District.

repaired, or cleansed, and 5 drains were ventilated. Two privies were converted into water-closets; five new dustbins were provided. There were 267 applications for refuse removal received and attended to. In 9 cases, the nuisances removed were due to accumulations of manure, stagnant water, animal, or other refuse.

Overcrowding.—Three cases of overcrowding a dwelling-house were reported, and dealt with effectively.

Factory and Workshop Act.—The duties imposed by this Act are receiving attention. A register has been formed, and there are at present, 4 factories, and 48 workshops under inspection. During 1907 there were 2 premises reported for want of cleanliness. The necessary work required was carried out.

Dairies and Cowsheds.—Twenty-five dairies and cowsheds have been regularly inspected.

Slaughter-houses.—Three slaughter-houses were regularly inspected.

Isolation Hospital Accommodation is provided through the Wirral Joint Hospital Board, to which the District contributes.

A New Cemetery was found necessary in 1904, and steps were taken to provide it. Its construction is now completed, with the necessary chapel and lodge. A portion of the ground has been consecrated.

The church-yard has been closed for new graves.

During 1906 there was one interment, and during 1907 there were 16 interments. In the course of preparing these graves, it was frequently noted that water accumulated as soon as the grave was finished. In some instances, indeed, the grave had to be partly filled in, and was rendered much shallower on this account. Application was accordingly made to the Local Government Board, for sanction to borrow money to drain the Cemetery. After the Official Inquiry, sanction to borrow £1,200 for this purpose was given.

NORTHWICH

Urban District.

Medical Officer of Health—DR. H. E. GOUGH.

Population at Census, 1901—17,611.

Estimated Population in middle of 1907—19,300.

Area in acres—1,397.

Birth-rate per 1,000 living—27.2.

Death-rate per 1,000 living—13.8.

Death-rate from seven principal Zymotic Diseases—1.4.

Deaths under one year to 1,000 births—121.

This Urban District is co-terminous with the Civil Parish bearing the same name. It takes in the former parishes of Witton-cum-Twambrooks* (including a formerly detached part of the parish of Leftwich), Northwich, and Castle Northwich, and parts of the parishes of Hartford, Winnington and Leftwich.

The population of the Urban District was 14,914 at the Census in 1891, and 17,611 at the Census in 1901. The increase in the population during the decennium, 1891-1901, was thus 2,697, that is 18 per cent. The estimate of the population made for the middle of 1907 is 19,300.

The inhabited houses and Census population of the three wards of the Urban District are as follows :—

	Inhabited Houses.	Census Population.
Castle Ward ...	1,115 ...	5,434
Northwich Board ...	638 ...	3,263
Witton Ward ...	1,813 ...	8,914

During 1907 the number of births registered was 526, and the number of deaths registered 258, excluding 13 deaths of non-residents, and including 4 deaths of residents which occurred outside the District.

The birth-rate is 3.7 below the average in the 10 years, 1897-1906, and the death-rate is 2.7 below the average in the same 10 years.

Amongst the deaths were 28 from the principle zymotic disease, viz. :—3 measles, 17 whooping-cough, 2 diphtheria, and 6 diarrhoea. Thus the zymotic death-rate was 1.4 per 1,000 living. There were also 7 deaths from enteritis, 2 from epidemic

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influenza, 14 from phthisis, 7 from other tubercular disease, 7 from cancer, 18 from bronchitis, 20 from pneumonia, 3 from diseases of the respiratory organs, 4 from alcoholism, 4 from premature birth, 1 from disease or accident of parturition, 35 from heart diseases, 15 from accidents, 1 from suicide, 20 from old age, 9 from convulsions, and 12 from marasmus.

Infantile Mortality.—In 1907 there were 64 deaths of infants under 1 year of age; this is equal to 121 per 1,000 births. The chief causes of death were: 2 measles, 8 whooping-cough, 2 diarrhoea, 5 enteritis, 3 gastritis, 4 premature birth, 1 congenital defect, 12 marasmus, 1 tabes mesenterica, 1 meningitis, 6 convulsions, 3 bronchitis, and 11 pneumonia.

There were only two deaths of illegitimate children, and both were under 1 year old.

Inquests.—There were 29 inquests held, 12 deaths being from diseases, 6 from falls, 3 from burns, 4 from drowning, 1 from suffocation, and 3 from results of wounds.

Cases of Infectious Disease notified.—There were 267 cases of infectious disease notified, viz.: 30 diphtheria, 9 erysipelas, 221 scarlet fever, 6 enteric fever, and 1 puerperal fever. Of these, 66 cases were sent to hospital, namely: 5 diphtheria, 56 scarlet fever, and 5 enteric fever. The larger number of these cases occurred during the early part of 1907.

Measles and whooping-cough were also prevalent, but are not notifiable.

Bacteriological Examinations.—The District Council have made arrangements for the bacteriological examination of material from suspected cases of diphtheria and enteric fever.

In 1907 36 swabs were sent, with the following results: from suspected cases of diphtheria, 22 negative, 14 confirmatory. Also 14 samples of blood from suspected cases of enteric fever, 3 samples of blood re-acted, and 11 gave negative results.

School Closure.—Of the 267 cases of infectious disease which occurred (not counting measles and whooping-cough), 180 were of children between the ages of 5 and 15. This fact clearly demonstrates the increasing difficulty of dealing with outbreaks of infectious disease, without unduly interfering with education. In

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the case of scarlet fever, which is notifiable, the Sanitary Authority has means of knowing when the disease is spreading. It is known at what schools the children attend, and the necessary steps are taken to warn teachers to look out for cases, etc., but in the case of non-notifiable diseases, the first intimation comes from the head teachers, who find a great falling off in the attendance, and until the Education Authority requests to have school closure the disease is unchecked.

The following schools were closed during 1907 :—Paradise Street Infant School, for scarlet fever, from February 18th to March 11th ; Park Street Infants', for whooping cough, from February 14th to March 11th ; Park Street Infants', for measles, from November 28th to December 6th ; Castle Girls', for measles, from December 11th to December 26th ; and Weaver Navigation Boys', for measles, from December 13th to December 26th.

Isolation Hospital Accommodation.—This is provided at the new Joint Hospital at Leftwich. The old hospital at Marbury has since October, 1905, been put in good order and set apart for the accommodation of any cases of small-pox which may occur in the Joint Hospital District.

Private Street Works.—The paving of a number of streets during the year has made a most excellent and much-needed improvement in the District, and the good work is to be continued by the paving of back passages in Castle Ward, and off Middlewich Road.

Such a complete account of the abatement of nuisances, and also of the scavenging of the District, with particulars of sanitary administration throughout the whole District, is given in the Inspector's report, that it is unnecessary to do more than refer to it.

Housing of Working Classes.—Although there is acute need for houses in this District for working people at all rentals, it has been necessary to condemn 13 houses as unfit for habitation during the year ; many of these were badly dilapidated from subsidence, and some are pulled down. Nine cases of overcrowding have also been dealt with.

In addition to the need for house room, there is a great desire for gardens and plots of land for fowl runs, green-houses, pigeon cotes, &c. ; in fact elbow room to enjoy

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a remunerative and health-giving recreation at home, and the most urgent need for plots of land has not been specified in the above list—it is for playgrounds for children.

Scarcity of land, i.e., the exorbitant price, causes houses to be clustered together as thickly as they can be, and creates inconvenience and insanitary conditions. If once it is realized how great is the influence upon mortality, vitality, and even morality of the proper housing of the people, one may look for some amelioration of the conditions.

Common Lodging-houses.—There are 7 of these houses on the register. In several instances the keepers had to be reported to the Council before the required improvements were carried out.

Water-supply.—The whole town is supplied by the District Council's mains from the Cote Brook Waterworks, a supply of great purity. However, the quantity is limited. There has been a considerable shortage of water during the year. The construction of another reservoir is a step which ought to be seriously considered.

Dairies and Cowsheds have been inspected periodically, and steps taken to keep them in order.

Milkshops.—The supervision of these is energetically carried out, but the keeping of milk for retail purposes in small shops where greengrocery and other food stuffs are kept is a bad practice, and very difficult to suppress. The better regulation of the milk traffic is a necessary measure. The regulations for the keeping of cows in Urban Districts need careful enforcement.

Slaughter-houses.—There are 12 in the District, all of which have been inspected. The floor of one was so affected by subsidence that it had to be re-laid. From information received the Medical Officer of Health and Inspector visited the slaughter-house belonging to the Winnington Co-operative Society, and there found a carcase of a heifer badly tainted with tuberculosis. This was destroyed. Two slaughter-houses were reported for not carrying out the regulations as to limewashing. This was attended to. In 3 cases the drains had to be taken up and relaid. One slaughter-house was reconstructed, 1 rebuilt.

Factories and Workshops.—There are 4 more of these on the register than in 1907, 2 bakehouses, a fustian cutting and

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a sewing factory. The good resulting from registration is evident, when the notification of 6 cases of infectious disease occurring in workshops has been traced. Full particulars of these and of the abatements of nuisances and overcrowding will be found in the Inspector's Report.

Sewerage Works.—The Castle sewerage scheme continues to work satisfactorily, and most of the property has now been joined up to it.

The low-lying part of the town on the N.E. side of the river is in a bad state as regards drainage, the subsidence causing the sewers to be waterlogged, when the river is at all high. The County Council have agreed to an arrangement by which some scheme for the better sewerage of the town, and the improvement of the River Weaver, which is polluted by the present system, shall in the course of operation in another year

Outfall Works.—The sewage-disposal works at Winnington appear to be working well, the effluent being satisfactory. About 300 trees were planted round the ground, and there is no doubt they will form a good screen, and protect the tanks from the various winds.

Refuse Removal.—This work is done under contract. The contents of privies, as well as house refuse, have been more regularly and satisfactorily removed in 1903, 1904, 1905, 1906 and 1907 than for many years before. The work is done under three contracts—one for East Witton, one for West Witton and Northwich Wards, and one for Castle Ward.

The exceptionally rainy season has greatly increased the work in the scavenging department, in consequence of which the contractors have had to increase their staff of workmen as occasion arose.

The contractors have satisfactorily carried out their duties, and very seldom have complaints been made.

The provision of tips, both for dry ashes and excreta, is becoming a serious question. In the case of excreta, it is taken outside the town and dealt with by the farmers, who will only accept it in solid form. To meet this requirement, the Contractors have to provide large manure pits where they can consolidate the excreta with other refuse. The dry ashes are tipped in any vacant space where the Contractors can get permission to put them, the loose paper and dry refuse being destroyed by fire.

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During the year the Contractors have removed 6,396 loads of dry ashes, and 2,652 loads of excreta at a cost of £1,135, and to ameliorate the objectional smell that arises during the time this work is being carried out, they have used about 2 tons of carbolic powder.

During the year the scavengers have received only 105 notices for the removal of house refuse. This speaks well for the way in which the work is carried out, and shews efficiency in the cleansing department.

An improvement has been made in the system of removing the dry refuse from boxes, etc., in the main streets ; the ashes are now carried in hampers direct to the carts, without being deposited in the road. Disinfectants are freely used by contractors for the removal of house refuse, as it is highly important that each ashbox or bin should be thoroughly disinfected.

Through the carelessness or ignorance of many householders a considerable amount of refuse, which might readily be burnt, is left to ferment and decompose, close to dwelling houses, causing a nuisance and occasional sickness. Refuse from the kitchen and scullery should be destroyed by fire, and not put in the ashpits or ashbins, to decompose and throw off a most dangerous odour.

A Refuse Destructor needed.—The Inspector reports that a destructor would be of great use, and would provide a means of getting rid of trade refuse from the shops, which the District Council do not collect and destroy at present.

Nuisance Abatement.—The Inspector reports that 47 legal notices have been served on owners of property for the abatement of nuisances, where, through subsidence or other causes, the property had become dilapidated. The notices have generally been complied with without any legal proceedings being taken.

One hundred and twenty letters have been written, calling attention to defective and insanitary property, and requesting the reconstruction or repair of the same. Through these letters a large amount of work has been carried out which has been most satisfactory to the Council.

Thirty-two cesspools have been done away with, and the pail system instituted. Owing to subsidence the cesspools had become leaky, and defective. They were for the most part situated where they could not be converted into water-closets, although a number of the owners wished to do so.

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Twenty-four cess-pools have been converted into W.C.'s., 67 lengths of house drains have been taken up and re-laid, 12 new ashpits have been constructed, 13 cases of filthy premises dealt with, and 10 more visited and remedied. Nine cases of overcrowding were dealt with, 16 manure heaps removed.

Outfall Works.—The sewage-disposal works at Winnington appear to be working well, the effluent being satisfactory. About 300 trees were planted round the ground, and there is no doubt they will form a good screen, and protect the tanks from various winds.

No Canal Boats are at present plying on the length of river in the Council's District, but two boats owned by Messrs. Brunner, Mond & Co., have been registered, which ply between Winnington and Liverpool, and one re-registered, that plys between Manchester and Liverpool.

RUNCORN

Urban District.

Medical Officer of Health—DR. F. McDOUGALL.

Population at Census, 1901—16,491.

Estimated Population in middle of 1907—17,800.

Area in acres—1,275.

Birth-rate per 1,000 living—30.1.

Death-rate per 1,000 living—18.2.

Death-rate from seven principal Zymotic Diseases—3.4.

Deaths under one year to 1,000 births—119.

The population of this Urban District was 20,050 at the Census in 1891, and 16,491 at the Census in 1901. The decrease in the population during the decennium 1891-1901 was thus 3,559, that is 17.75 per cent. The estimate of the population made for the middle of the year 1907 appears to be warranted.

In 1907 the number of births registered was 537, and the number of deaths registered in the District was 308. To these deaths should be added the deaths of 16 persons belonging to the District, who died at the Workhouse at Dutton. The total is therefore 324. The birth-rate for

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the year is 30.1, 0.7 below the average in the 10 years, 1897-1906. The death-rate is 0.7 above the average in the same 10 years.

Cases of Infectious Disease notified.—There were 195 cases notified in 1907, viz.:—81 diphtheria, 15 erysipelas, 40 scarlet fever, 46 enteric fever, 11 continued fever, and 2 puerperal fever. Of these, 5 cases of typhoid fever and 1 of continued fever were taken to hospital.

Scarlet Fever.—There were 40 cases of this disease notified, but only 1 death. The disease was of a mild form, and was doubtless spread by carelessness on the part of parents, whose children were in the infectious stage, and were not isolated. Some cases were imported from outside the District. In one instance there were 5 cases in 1 house.

Puerperal Fever.—There were 2 cases, both recovered. There is no doubt that the inspection and supervision of midwives has reduced the number of cases of this disease already.

Diphtheria was again prevalent, and caused 4 deaths. There were a great number of sore-throats throughout the year.

Measles, which is not notifiable in the District, was very prevalent, and caused 37 deaths. The epidemic reached its height in May. In many cases the deaths were from complications, but some were from simple measles. Twenty-eight of those who died were under 5 years of age, and there is no doubt that the common habit of viewing measles too lightly was to blame for many cases.

It was thought advisable to close the schools from May 1st to May 28th, and the Infant school was again closed till June 17th.

Enteric Fever caused 12 deaths out of 46 cases notified. The Medical Officer of Health made a careful examination of the premises where cases occurred, and found them sanitary, except in one case, where apparently neglect, and misuse of the W.C. common to three cottages, caused a very bad smell. A child who had used the closet complained of the smell having made her feel sick, and she subsequently developed

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symptoms of enteric fever. The mother nursed the child, washed and cooked for her, and her household, for some weeks, without apparently taking any special precautions in the matter of disinfection of hands, utensils, or clothing. At the end of that time she employed a neighbour, two doors off, to wash for her. The sick child's clothing and bed linen was in each instance washed with that of the other people in the house. Soon there were 3 cases in the second house. Then in the first house a second, deferred case, occurred, and later 2 more in the second house. Of the five attacked in the second house, 3 died.

The Medical Officer calls attention to the need for extreme care, disinfection, and cleanliness, in nursing this disease.

Diarrhœa was the cause of only 3 deaths in 1907, a very small number. The wet cold summer was probably the cause of the low diarrhœal death-rate.

Phthisis was the cause of 8 deaths. It is gratifying to see the decline in the number of deaths from this disease. This is equal to a death-rate of 0.84.

Infantile Mortality.—There were 64 deaths of infants under 1 year of age. Of these, 8 were from measles, 1 from diphtheria, 5 from whooping-cough, 2 from diarrhœa, 1 from congenital defect, 1 from marasmus, 6 from tubercular disease, 7 from convulsions, 4 from pneumonia. The rate is therefore equal to 119 per 1,000 births.

Attention has been frequently drawn in previous Annual Reports to the management and proper feeding of infants, and the importance of good care and good food in preventing an increase of mortality, especially in the hot weather. Artificially fed infants require special attention, and those who have charge of them need special instruction.

Inattention by those in charge of the infants, errors of diet, and insanitary surroundings appear to be the main causes in the production of epidemic diarrhœa and enteritis.

Cancer.—The 16 deaths from cancer are equal to a rate of 0.9 per 1,000 living.

Water=supply.—This comes from a deep well situated on Runcorn Common. The well is about 300ft. in depth, and apparently about 70ft. below the bed of the River Mersey.

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The water is pumped into a large receiver, situated on Runcorn Hill, and is distributed by gravitation to the whole District. The water used to be supplied through a Limited Company, but the Urban Authority have discharged the duty for about thirteen years. The supply is plentiful, a quarterly examination is made of the water, either analytically or bacteriologically, and a Report is made to the Authority thereon. Up to the present no trace of sewage contamination has been obtained, or anything to indicate such pollution.

The water supply for the town underwent considerable change during 1906—half the supply comes now from the system of the Liverpool Corporation, and the other half from the old well from which the former supply came. The Liverpool water gets into the reservoir by gravitation. The mixed water is delivered throughout the District by the old mains.

Sewerage Arrangements.—Prior to the time of the making of the Manchester Ship Canal, all the sewage of the Township was conveyed by seven different sewers which discharged their contents into the River Mersey. Since the making of the Canal six of these sewers have been diverted into an intercepting sewer of large capacity, which runs parallel to the Canal, and is syphoned under it a little below the southern end of No Man's Land, and discharges into tidal waters, a tidal valve being provided. There are two large man-holes, one on each side of the Canal, enabling the sewer to be examined from time to time. A heavy chain passes through the sewer from man-hole to man-hole, and is worked by a winch at the top of each man-hole, thus keeping the contents of the sewer in motion and preventing the collection of silt. This portion of the sewerage arrangements is under the constant supervision of the Canal Authorities. The intercepting sewer is well ventilated and periodically inspected.

The seventh sewer was not diverted at the time of the making of the Manchester Ship Canal, but was made to go into a culvert under the Canal, which opens out on the Mersey side of the Canal embankment, a little to the North of the Weston Point Docks. This sewer and the intercepting sewer which received the six sewers already referred to, constitute the sewerage system of the Town and Urban District.

Refuse Removal.—At one time the privy-ashpit, with very few exceptions, represented the only method of dealing

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with night-soil. Within recent years water-carriage has been insisted upon wherever possible, and whenever structural alterations are necessary. All new house properties of whatever description have water-carriage, and the system has been found to work well. As regards the old privy-ashpits and cesspools, they are slowly disappearing; however, they are still in existence to a considerable extent.

Privy-pits and ashpits are periodically emptied and the contents sold to farmers for manuring land. All this special work is done by the Local Authority, the necessity of employing a contractor being thus avoided. The night-soil is removed during the night, being tipped into large barges, and taken along the old Bridgewater Canal to be delivered to farmers whose property adjoins the Canal.

During 1907 there were 382 ash-pit emptyings, and 1,600 tons of night-soil removed, from ashpits. The ash-box emptyings numbered 90,000. Pails were emptied 2,350 times.

Housing.---There are plenty of houses available, and, as a rule, suitable to the requirements of the tenants. A few new houses have been built during the year, and some have undergone re-construction, much to the advantage of the localities concerned, and the comfort of the tenants.

Systematic Inspection.—The District is under continuous inspection; some parts daily. There is no place, no house, no backyard that has not been examined during some part of the year. Defects discovered or pointed out have been remedied, and it has not been necessary to take legal proceedings in any case. In most cases property owners give willing attention to the recommendations of the Authority.

Water carriage is insisted on in all new properties.

The Sanitary Inspector, Mr. Percival, furnishes information as to matters coming under his supervision.

Nuisance Abatement.—The number of nuisances discovered or brought to the knowledge of the Inspector was 347. The number of nuisances abated was 331.

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Several nuisances are often referred to in one notice. A large number of nuisances were owing to various defects in dwelling houses, defective drains, soil-pipes and gulley traps, obstructed drains, sinks directly connected with drains, insanitary ashpits and privies, defective water-closets, unpaved yards and passages, houses dirty or without proper ventilation, with dilapidated roofs, without proper water-supply, &c., or with stagnant water in the cellars. Other nuisances abated were from accumulation of manure, decayed fruit, fish, &c. Two smoke nuisances were reported and dealt with.

Meat Inspection.—This very important work has been systematically carried out throughout the year, and no cause of complaint reached the Medical Officer. In one particular instance, advice was sought as to the fitness of a carcase for the food of man, before the carcase was offered for sale. By advice the carcase was destroyed.

On September 19th the carcase of a pig was destroyed as unfit for food.

Common Lodging-houses.—These are registered, and have been regularly visited by the Inspector. In no instance has there been cause of complaint. In all 297 visits of inspection were made.

Slaughter-houses.—These were inspected 127 times during 1907.

Milkshops and Cowsheds.—There are 36 milkshops, and 12 cowsheds, which have been kept under regular supervision by the Inspector.

Factory and Workshop Act.—The Medical Officer of Health and Mr. Wilding, the District Surveyor, report that all workshops under this Act had been duly inspected. As regards the sanitary condition of workshops, the cleanliness with few exceptions was satisfactory, the air-space was adequate in each case, and the ventilation sufficient, if used; but there is difficulty in getting the people to use the means provided. The drainage of floors is attended to properly, and the sanitary accommodation was found to be suitable, except in 1 instance, when the defect was remedied.

SALE

Urban District.

Medical Officer of Health—DR. OLIVER WITHERS.

Population at Census, 1901—12,088.

Estimated Population in middle of 1907—14,400.

Area in acres—2,005.

Birth-rate per 1,000 living—22.1.

Death-rate per 1,000 living—13.0.

Death-rate from seven principal Zymotic Diseases—1.0.

Deaths under one year to 1,000 births—118.

The population of Sale Urban District was 9,644 at the Census in 1891, and 12,088 at the Census in 1901. The increase in the population during the decennium 1891-1901 was thus 2,444, that is 25.3 per cent. The estimate of the population made for the middle of the year 1907 is 14,400—a reasonably low estimate.

In 1907 the number of births registered was 330, and the number of deaths registered was 181. The number of deaths was increased by 7 deaths of residents which took place outside the District, viz., 5 in the Workhouse Hospital, and 2 in the Manchester Royal Infirmary. Thus there were 188 deaths of persons belonging to the District. The birth-rate is 2.5 below the average in 1897-1906, and the death-rate is 1.2 above the average in the same ten years.

The number of deaths from the principal zymotic diseases was 15, viz., 2 measles, 3 scarlet fever, 4 whooping-cough, 1 diphtheria, and 5 diarrhœa. The zymotic death-rate was therefore equal to 1.0 per 1,000 living, the average in the District being 1.5. The deaths recorded include 1 enteritis, 14 phthisis, 4 other tubercular diseases, 14 cancer, 16 bronchitis, 24 pneumonia, 1 pleurisy, 2 other diseases of the respiratory organs, 2 alcoholism, 8 premature birth, 4 diseases or accidents of parturition, 19 heart diseases, 8 accidents, 2 suicides.

Cases of Infectious Disease notified.—The number of cases of infectious disease notified was 62, viz. :—5 diphtheria, 46 scarlet fever, 3 erysipelas, 2 enteric fever, 1 puerperal fever. Of these, 1 case of diphtheria, and 21 cases of scarlet fever were removed to Baguley Hospital.

Diphtheria.—Of the 5 cases, 1 proved fatal.

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Scarlet Fever.—The cases of this disease were generally of a mild character, but 3 proved fatal.

Infantile Mortality.—There were 39 infants who died before completing their first year, from the following causes, 2 whooping-cough, 5 diarrhœa, 3 bronchitis, 6 pneumonia, 8 premature birth, 3 injuries at birth, 1 heart disease, 4 accidents, and 7 from other causes.

Five of those who died were illegitimate.

Phthisis.—The deaths of 14 persons were ascribed to phthisis, thus the phthisis death-rate was equal to 0.97 per 1000 living. This is a fairly high phthisis death-rate.

Cancer.—The 14 deaths from cancer are equal to a death-rate of 0.97 per 1000 living.

Preventing the Spread of Infectious Disease.—Ordinarily, when a case of infectious disease is reported, the premises are visited, the cause, if possible, is ascertained, and advice is given as to the remedying of insanitary conditions, and the best method of preventing the extension of the disease.

Isolation Hospital Accommodation.—Sale, being one of the Authorities forming the Bucklow Joint Hospital District, has excellent hospital provision at Baguley, which is easy of access. The prompt removal of cases, when isolation could not be obtained at home, enabled the Medical Officer of Health to limit the spread of infection as regards scarlet fever and diphtheria.

Water-supply.—This is from the Manchester Corporation reservoirs at Woodhead. The water is good, and generally sufficient in quantity.

Systematic Inspection.—Inspections are made week by week, and insanitary conditions discovered are reported, steps being forthwith taken to remedy them.

Nuisance Abatement.—Among the nuisances dealt with were the following: 63 defective ashpits, 20 dirty yards, and 2 defective sewers.

Among the most important sanitary improvements carried out were 36 privies converted into water-closets, 44 choked drains put in order, and 17 openings properly trapped.

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Factories, Workshops, Dairies and Slaughter-houses have been regularly inspected during the year. With two or three exceptions, all have been found in a satisfactory condition.

Canal Boats.—In all 130 canal boats have been visited and inspected by the Inspector. Of these, 5 boats failed to comply with the requirements of the Canal Boats Act, 3 were dirty, and 2 were without water-casks. The owners made good these defects without proceedings being taken against them.

SANDBACH

Urban District.

Medical Officer of Health—DR. R. RIDDELL.

Population at Census, 1901—5,558.

Estimated Population in middle of 1907—5,558.

Area in acres—2,694.

Birth-rate per 1000 living—24.6.

Death-rate per 1000 living—16.2.

Death-rate from seven Principal Zymotic Diseases—0.18.

Deaths under one year to 1000 births—87.

The population of the Urban District was 5,824 at the Census in 1891, and 5,558 at the Census in 1901. Thus during the decennium 1891-1901 there was a decrease in the population of 266. It is estimated that the population in the middle of 1907 did not exceed the enumerated population in 1901.

During 1907 the number of births registered was 137, and the number of deaths registered in the District was 84. To the latter must be added 6 deaths of persons belonging to the District, registered elsewhere. Thus the deaths belonging to the District number 90. The birth-rate is nearly 4 below the average, in 1897-1906, and the death-rate is about 1 above the average, in the same 10 years.

Twelve of those who died were infants under a year old, and 41 were persons 65 years old and upwards.

There was one death from membranous croup, none from any other zymotic disease. Three deaths were from enteritis, 2

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from phthisis, 5 from other tubercular diseases, 6 from cancer, 5 from bronchitis, 10 from pneumonia, 1 from alcoholism, 1 from premature birth, 2 from diseases of parturition, 15 from heart diseases, 2 from accidents, 2 from suicide, and 17 from senile decay.

Cases of Infectious Disease notified.—There were 34 cases of infectious disease notified, viz.:—4 diphtheria, including membranous croup, 27 scarlet fever, 2 erysipelas, and 1 puerperal fever. Only 1 death occurred, namely, that of a child from membranous croup. The cases of scarlet fever, and of membranous croup occurred at intervals throughout the year, decreasing in number during the last three months. The Medical Officer of Health examined all children in the District Schools, and took measures which were successful in checking the spread of the disease.

Isolation Hospital Accommodation.—The hospital at Arclid has been improved and enlarged, and will in future be used for small-pox only. Hospital accommodation for other infectious diseases is being provided by a Joint Hospital Board, representing Congleton Rural District, the Borough of Congleton, and the Urban Districts of Alsager and Sandbach.

Water-supply.—This is derived from an upland source and treated by Clarke's process. It is very pure, fresh, and soft. The quantity continues to be amply sufficient, not only for Sandbach, but also for the townships supplied through Congleton Rural District Council. The treatment is costly, and requires constant care.

The water is brought from the uplands by means of a 10in. main, and a 7in. main. Only one main is used at a time, so that the other may be cleared out without curtailing in any way the supply of water. New machinery has been obtained, and this, and the new 10in. main are now in use with very satisfactory results.

Houses for the Working Classes are provided in sufficient number. At the close of the year there were 22 uninhabited houses. All the occupied houses are in good repair, and have healthy surroundings. Three new houses were erected during 1907, all were connected with the sewers, and supplied with town's water.

Common Lodging-houses.—There are only 2 in the District, and these are kept clean and thoroughly whitewashed.

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One of them is old, and the accommodation therein is not of the best. The other house is a model of cleanliness, and in order. They have been inspected from time to time, and are never overcrowded.

Dairies, &c., have been inspected and found satisfactory. New regulations were made by the Authority in December, 1899, and came in force on February 1st, 1900. Since this date the local dairies have been inspected and registered. In many instances structural defects have been pointed out and remedied.

Most of the milk from farms near Sandbach is sold to the milk factories. The supply for the town is mostly obtained direct from the farmers, and retailed, without being stored in a milk-shop.

The cowsheds in the Urban District are well inspected, and ventilation attended to.

Meat Inspection.—This has been carried out by the Medical Officer of Health and Sanitary Inspector, in consultation with a Local Committee. No unsound meat has been detected or reported during the year.

Slaughter-houses have been inspected and found in order, all garbage, manure, etc., is promptly removed. During the year the Co-operative Society have built new abattoirs, which, if duly attended to, will prove a great improvement.

Factories and Workshops have, under the new Act, come more directly within the control of the District Council. Generally, the air-space, ventilation, and sanitary arrangements have been found sufficient. Necessary improvements have been made, and there are exits in case of fire. The Factory Act covers all cases of child labour in the District.

Bake Houses.—There are 6 bakehouses now in use in the District. All were visited, and found in order. All are above ground.

Nuisance Abatement.—All the nuisances reported or discovered have had attention, and been dealt with.

Refuse Removal.—Mr. Amos Wood, the Surveyor and Sanitary Inspector, reports that scavenging, as in past years, has

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been in the principal work of his department. Pending the completion of the outfall sewer and disposal works few water-closets have been put in recently, still they are being put in from time to time, and will be in increasing numbers. In course of years they will no doubt supersede the old closet cesspool. Meanwhile, 2 horses and 5 or 6 men are employed almost wholly in refuse removal.

During 1907 there were 5,228 visits made to remove ashes, etc., 12,648 visits to remove nightsoil. The value of nightsoil sold was about £9 more than in 1906 (£89 10s. 6d.)

There were 1,561 loads of ashpit refuse carted away. The nightsoil is taken right away from the town and used on the land, which is specially well adapted to receive this manure.

The storage of ashes has always been a difficulty, especially in confined situations. A number of owners have fitted their houses with dust-boxes. This is much better than storing the ashes and house refuse in pits, but as dust-boxes have to be emptied every week, the cost of scavenging is much increased.

The streets are properly scavenged, the channels well brushed, and the gullies cleaned out.

Scheme for Sewerage and Sewage Disposal.—

It was mentioned in the Annual Report for 1904 that a scheme had been prepared for the District Council by Mr. W. Wyatt, C.E. This scheme is now approaching completion, and it is hoped that in the course of a few months the new system will be in full working order, and will deal with the sewage of the town in a thoroughly satisfactory manner.

Canal Boats have been inspected and found duly registered and in a satisfactory condition. The boats usually only come within the District for a short time, being registered either at Runcorn or Stoke. No case of overcrowding was noticed.

TARPORLEY

Urban District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—2,644.

Estimated Population in middle of 1907—2,609.

Area in acres—6,195.

Birth-rate per 1,000 living—23.7.

Death-rate per 1,000 living—10.3.

Death-rate from seven principal Zymotic Diseases—0.8.

Deaths under one year to 1,000 births—32.

This Urban District consists of Rushton, Eaton, Utkinton, and Tarporley. The area is given as follows:—

	Area in Acres.
Rushton 	1,797
Eaton-by-Tarporley	1,344
Utkinton (including Cotebrook) 	1,889
Tarporley (including Rhuddall Heath) ...	1,165

The population was 2,702 at the Census in 1891, and 2,644 at the Census in 1901. The decrease in the population during the decennium, 1891-1901, was thus 58—a little more than two per cent. The estimate of the population made for the middle of the year 1907, is 35 less than the enumerated population in 1901.

During 1907 the births registered in the District numbered 62, and the deaths registered in the District numbered 25. To the deaths must be added 1 in the Workhouse and 1 in the County Asylum, thus, the deaths of persons belonging to the District were 27. The birth-rate is 2.2 below the average in the District in 1897 to 1906, and the death-rate in the District is 5.1 below the average in the same 10 years.

Two of those who died were under 1 year old, and 14 were 65 years old, and upwards.

The only deaths from zymotic disease were 2 from diphtheria. There were 2 deaths from cancer, and 1 from heart disease.

Cases of Infectious Disease notified.—There were 9 cases of infectious disease notified, viz.:—6 diphtheria, and

Tarporley Urban District.

3 scarlet fever. None of the cases were removed to hospital, but isolation at home, with attention to disinfection, prevented any general spread of infection. As a precautionary measure one school was closed by the Managers, for 3 weeks.

Water=supply.—The town of Tarporley is well supplied with water from the Liverpool Waterworks. It is a soft water, and great care is taken not to use lead pipes for its distribution in any part of the house service. There are upwards of 300 houses and premises in connection with the mains. In parts of the District are ordinary wells, and other parts are supplied by pipes with water from springs, which are of excellent quality, and afford a good supply to houses within reach of them.

The water supply required for part of the Township of Rushton, comprising 5 farms and 5 cottages, has been provided by a main connected with the Liverpool Waterworks. This work has been done by Sir Philip Egerton, the owner of the property.

Isolation Hospital Accommodation.—Satisfactory provision has been made, through the Joint Hospital Board, for the reception of infectious cases other than small-pox into the Chester Isolation Hospital.

Inspection.—The Medical Officer of Health visited the District from time to time, and made a general inspection in June and September, reporting in detail on various sanitary matters of an ordinary character.

Backyards.—Bye-laws appear to be needed to enforce and regulate the paving of backyards, etc.

Sewerage and Sewage disposal.—A very great improvement has been effected in Tarporley through the facilities for efficient drainage afforded by the new sewers. The outfall works are in full working order and acting well. A great many house-connections have been made, and others are being made. The sewers have been regularly flushed.

Irrigation Ground.—The sewage farm is in a satisfactory condition, but will not show quite as good profits as last year, the wet season having spoiled the oat-crop.

Tarporley Urban District.

Removal of Excreta.—The disposal of excreta in Tarporley, as in other parts of the District, deals chiefly with ashpit refuse. The combined privies and ashpits are mostly emptied by farmers, without difficulty; but in Tarporley there have always been exceptions to this rule, owing to its more Urban character.

Report of Surveyor and Inspector.—Mr. Greenway, the Surveyor and Inspector, gives attention to all complaints made, visits houses complained of, sees to the cleansing of dirty premises, and the abatement of nuisances. He states that 140 premises have been inspected, and 80 of these have been re-inspected. Twelve house drains were repaired, cleansed, etc., and 4 ventilated. Seven privies were converted into water-closets. One house was newly supplied with water. One well was cleansed and repaired.

Dairies, &c.—The premises of 11 milk sellers were inspected during the year, and found to conform to the Regulations made by the District Council.

Slaughter-houses.—There are 2 slaughter-houses in the District, which were regularly inspected.

Factory and Workshop Act.—There is no factory in the District, but there are 12 workshops, including 5 bake-houses. These were regularly inspected, and action taken to remedy defects.

Bye-laws were adopted in 1906, and came into operation on November 23rd, with respect to common lodging-houses and slaughter-houses. This will greatly facilitate keeping these places in order.

WALLASEY

Urban District.

Medical Officer of Health—DR. A. CRAIGMILE.

Population at Census, 1901—53,579.

Estimated Population in middle of 1907—67,000.

Area in acres—3,349.

Birth-rate per 1000 living—26.3.

Death-rate per 1000 living—13.0.

Death-rate from seven principal Zymotic Diseases—0.7.

Deaths under one year to 1000 births—101.

The population of this Urban District was 33,229 at the Census in 1891, and 53,579 at the Census in 1901. The increase of the population during the decennium 1891-1901 was thus 20,350, that is 64.24 per cent.

The return of inhabited houses in this District, as supplied by Mr. J. J. Burnley, the Accountant, is as follows :—

December 31st.						
	1906.		1907.		Increase.	
Poulton-cum-Seacombe ...	5002	...	5223	...	221	
Liscard ...	7501	...	7911	...	410	
Wallasey ...	1313	...	1492	...	179	
	13816		14626		810	

This gives an increase of 221 inhabited houses for the year, making a total of 14,626. At the Census of 1901, the average number of persons per house was 4.97. 11,909, multiplied by 4.97, gives the population at the end of the year as 59,187. At the end of 1904, the population, estimated in the same way, was 57,572. Now it will be presently seen that the natural increase of population for 1907, *i.e.*, the number of births over deaths, was 885. Taking this into account, together with the increase from immigration into the District, it is estimated that the population at the middle of 1907 was 67,000. The Medical Officer of Health thus, instead of adding 1,000 per annum, as he has lately done, has added 1,500. This estimate takes no account of floating population, *viz.* :—Persons on board ships, flat-boats, etc., in the Wallasey portion of the docks and river. The Registrar-General estimates the population of Wallasey Urban District, at the middle of 1907 at 68,849. He has simply added about 2,000 per annum to the Census population of 1901, as that was the rate of increase

Wallasey Urban District.

between 1891 and 1901. However, the rate of increase is not now as rapid as it was in the last decennium.

It will be observed that the greatest increase of new houses of late has been at Liscard. This is owing mainly to the development of the Stoneby estate.

The number of births registered in the whole District during 1907 was 1763, and the number of deaths was 837. To the gross number of deaths must be added the deaths of 60 residents which occurred in public institutions beyond the District, and from them must be deducted the deaths of 21 persons not belonging to the District who died elsewhere. The deaths belonging to the District were therefore 876. The birth-rate in 1907 was 26.3, and the death-rate was 13.0.

The following meteorological results, obtained through the courtesy of Mr. Plummer, of the Bidston Observatory, show the mean temperature, mean barometer, and the amount of rain-fall in inches, for every month in the year 1907. The mean barometer, as given below, has been reduced to 32 degrees Fahrenheit, and to sea level :—

1906.	Mean Barometer. Inches.	Mean Temperature in Degrees F.	Rainfall Amount. Inches.
January	30.291	39.3	0.989
February	29.986	37.7	1.377
March	30.114	44.2	1.540
April	29.765	46.2	1.440
May	29.842	50.6	2.639
June	29.776	54.5	4.709
July	30.010	57.9	1.911
August	29.926	57.9	2.939
September	30.104	57.6	0.560
October	29.590	49.8	4.194
November	29.940	44.6	2.095
December	29.692	41.0	2.175
Total ...			26.568

The Medical Officer of Health also gives the following interesting particulars of the local rainfall registered, and supplied by Dr. Wm. Bell, of St. George's Mount, New Brighton, which shows that the rainfall in the Wallasey District in 1907 was a little more than at Bidston Hill.

Wallasey Urban District.

1907.	Total depth.			Greatest fall in 24 hours.		Number of days with .01 or more recorded.
	Inches.	Depth.	Date.			
January	0.98	0.30	1st			10
February	1.50	0.23	19th			15
March	1.66	0.79	9th			12
April	0.91	0.40	20th			12
May	2.84	0.65	30th			25
June	5.22	0.98	30th			28
July	2.52	0.62	22nd			19
August	3.31	1.13	14th			16
September	0.67	0.24	2nd			4
October	4.12	0.54	25th			23
November	2.53	0.55	24th			17
December	2.14	0.41	13th			15
Total ...	28.40					196

A comparison between the above Table and that for 1906 gives the following results as regards temperature and rainfall, the sign + meaning an increase for 1907 and the sign — a decrease for 1907.

			Mean Temperature, In Degrees.	Rainfall. Inches.
January	...	...	—3.0	—3.391
February	...	...	—0.8	—0.462
March ...	...	...	+2.6	—0.450
April ..	...	...	+0.9	+0.584
May ...	...	...	—0.4	—0.047
June ...	..	...	—3.3	+3.329
July ...	...	..	—2.3	+0.893
August	...	...	—4.3	—0.269
September	...	...	+0.3	—1.068
October	...	...	—1.4	—0.604
November	...	...	—1.3	+0.610
December	...	...	+1.1	—0.633
			—11.9	—1.509

Thus, for the whole of 1907, there was a decrease of temperature amounting to 11.9 degrees, and of rainfall, 1.509 inches. June, July, August, October and November all showed decreases of temperature, compared with 1906, in August the decrease being as much as 4.3, and the comparative rise in September was only slight. Also the rainfall in June and July exceeded that of the corresponding months in 1906, while the decreased rainfall in August, September and October was so slight as not to have any marked influence.

Wallasey Urban District.

During the four hot months, the deaths were, for diarrhœa and gastro-enteritis :—

	Diarrhœa 1907.	Gastro- Enteritis. 1907.	Total.
July	2 ..	1 ...	3
August	5 ...	4 ...	9
September	4 ...	1 ...	5
October	3 ...	3 ...	6
	—	—	—
	14	9	23

out of a total of 35 from these two diseases for the whole year.

The next table gives the mortality (from all causes) under one year—the so-called infant mortality—which is always looked on as an important index to the healthiness and sanitary conditions of a locality.

It also gives the number of deaths under 5 years of age. *

Year.	Infants under one year	Rate of Infant Mortality per cent. of deaths.	Rate of Infant Mortality per 1,000 Births.	Under 5 Years.
1897 ...	213 ..	28.94 ...	168.3 ...	334
1898 ...	221 ...	28.55 ...	167.5 ...	296
1899 ...	241 ...	30.58 ...	163.2 ...	328
1900 ...	208 ...	24.18 ...	132.6 ...	276
1901 ...	219 ...	28.33 ...	142.7 ...	293
1902 ...	172 ...	22.84 ...	108.9 ...	242
1903 ...	183 ...	23.92 ...	113.5 ..	269
1904 ...	265 ...	30.04 ...	157.9 ...	385
1905 ...	163 ...	21.10 ...	98.97 ...	240
1906 ...	201 ...	24.39 ...	117.13 ...	304
1907 ...	179 ...	20.43 ...	101.53 ...	357

Thus there were 22 fewer deaths of infants under one year in 1907 than in 1906, and the rate per 1,000 births is lower by 15.60.

Details of deaths under one year from 1902 from those diseases most fatal to infants are here given :—

	1902.	1903.	1904.	1905.	1906.	1907.
Diarrhœa.....	9	23	50	29	55	14
Convulsions.....	15	14	24	9	14	15
Bronchitis & Pneumonia...	31	20	31	15	26	30
Enteritis	7	11	9	5	11*	11*
Premature Birth.....	26	24	32	29	17	36
Atrophy and Debility.....	35	38	44	21	22	26
Total	123	130	190	108	145	132

* Includes Gastritis.

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Deaths from Zymotic Diseases. — The principal zymotic diseases caused 51 deaths in 1907, viz. :—6 measles, 6 scarlet fever, 7 diphtheria, 13 whooping cough, 3 enteric fever, and 16 diarrhœa. The zymotic mortality of recent years was as follows :—In 1906 the deaths were 134, in 1905 they were 66, in 1904 they were 162, in 1903 they were 175, in 1902 they were 67, in 1901 they were 122, and in 1900 they were 65. In 1907 these deaths were equal to 0.7 per 1,000 living.

Cases of Infectious Disease notified.—The number of cases of infectious disease notified in 1907 was 427, viz. :—92 diphtheria and membranous croup, 255 scarlet fever, 31 enteric fever, 4 puerperal fever, and 45 erysipelas.

TOWNSHIPS.				Small-pox.	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlatina.	Typhus.	Typhoid.	Puerperal.	Totals.
Poulton-cum-Seacombe	{	Poulton ..	...	{ Under 5.	—	3	—	1	6	—	—	10
				{ Over 5.	—	10	—	8	17	—	3	38
Liscard.	{	Seacombe ..	...	{ Under 5.	—	1	—	—	18	—	1	20
				{ Over 5.	—	5	—	12	58	—	7	85
	{	Egremont ..	...	{ Under 5.	—	6	—	—	9	—	—	15
				{ Over 5.	—	22	—	3	31	—	3	59
	{	Liscard ...	...	{ Under 5.	—	5	—	1	24	—	—	30
				{ Over 5.	—	13	—	14	52	—	8	87
	{	New Brighton ...	...	{ Under 5.	—	6	—	—	6	—	—	12
				{ Over 5.	—	11	—	3	17	—	8	39
Wallasey ...	{		...	{ Under 5.	—	2	—	—	3	—	—	5
				{ Over 5.	—	8	—	3	14	—	1	27
Totals ...	{		...	{ Under 5.	—	23	—	2	66	—	1	92
				{ Over 5.	—	69	—	43	189	—	30	4 335

NOTE.—For the purposes of more defined Localization :—Poulton includes that portion of Poulton-cum-Seacombe Township to the West of Wheatland Lane; Liscard Township is above divided into Egremont (portion of Liscard between Seacombe and Green Lane); Liscard proper, including Liscard Village, Magazines, and on to Magazine Lane and Mount Pleasant Road; and New Brighton, including rest of Liscard Township.

Measles not being notifiable, the number of cases is not known. However, the extent of prevalence of the disease is indicated somewhat by the fact that it was the registered cause of 6 deaths.

Two Schools were closed on account of measles as detailed below :—

INFANTS' DEPARTMENT MANOR ROAD COUNCIL SCHOOL.—Closed for three weeks, from February 11th, owing to prevalence of measles. "170 children, out of 274 on Register, absent. Children coming to school with eruption actually out."

Wallasey Urban District.

INFANTS' DEPARTMENT, ST. PAUL'S SCHOOL.—Closed for three weeks from June 24th, 1907, owing to the prevalence of whooping cough and measles. 98 children out of 299 on register absent.

Whooping-cough is also not notifiable, but the extent of its prevalence is to some degree indicated by the 13 deaths recorded. "The idea that children ought to be taken out during an attack of whooping-cough" remarks the Medical Officer of Health, "is still extensively prevalent even in households where one would expect more knowledge, and more common sense. If parents and guardians could be convinced that the only safety is to keep children indoors during whooping-cough, till the medical attendant considers it safe to let them out, there would be very few deaths, and the disease would run its course in much shorter time."

Diphtheria and Membranous Croup.—As already stated there were 92 cases notified as diphtheria and membranous croup, while 7 deaths were registered. Thus the case-mortality was 7.6 per cent. Antitoxin is supplied at the hospital and was freely used practically for all cases.

Scarlet Fever caused 6 deaths in 1907—the same number as in 1906—giving a mortality of 0.08 per 1,000. The cases were on the whole of a mild nature, but the fatal cases were of a very malignant type, and of the rest some cases were very severe, and tedious in their convalescence. 178 cases were treated in Mill Lane Hospital, compared with 228 in 1905, 170 in 1904 and 309 in 1903. All the 6 deaths occurred in hospital.

Often the attack was so mild that it was overlooked by the parents, and the disease was discovered only when others of the same household were infected. Such undetected cases may, and do, attend public elementary schools, even when peeling is going on. A circular calling attention to this has been sent to all the schools, warning teachers of the danger of such overlooked cases, and detailing the symptoms. There is no doubt that of late years scarlatina has spread very largely through school attendance, and the milder form of the disease prevalent makes it spread because the child is often not so ill as to necessitate calling in medical aid. Some cases are so slight, and the rash is so little marked, that medical men are in doubt as to its being really of an infectious nature. In such cases, the only safe course is to isolate the patient for some time, to determine the true nature of the disease. Peeling, even in a slight form, can generally be detected after a time in some part of the body, if it is scarlatina.

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A child was brought up to the Wallasey Dispensary in the peeling stage, and there recognised by the doctor as a case of scarlatina. He sent for the ambulance from Mill Lane Hospital, but meanwhile the mother, refusing to accept his decision, took the child home. The doctor reported the case to the Medical Officer, who at once visited the house in Palermo Street, and found the child playing with a number of others in the street. This child had attended school up to a few days before the visit. The mother, on being threatened with proceedings for exposing the child in an infectious state, consented to its removal, and it was isolated in hospital.

Return Cases.—A careful record was kept of all return cases of scarlet fever.

Such a case of scarlatina is looked on as a second case, occurring in a household from which a member has been sent to hospital. If, on the return of such member from hospital, a second case occurs in that household within a limited period, usually defined as three weeks, it is considered probable that infection is conveyed by the return of the first member, and it is called a Return Case, unless another source of infection can be shown. Of course, an independent source of infection may be present, such as clothing, etc.

Enteric or Typhoid Fever.—The localities in which the 31 cases occurred, and the months in which notifications were received, are indicated in tabular form as follows :—

Townships.	Jan.	Feb.	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Totals.
Poulton-cum-Seacombe :													
Poulton	—	1	1	—	—	—	—	—	—	1	—	—	3
Seacombe	—	1	1	1	—	—	1	1	3	—	—	—	8
Liscard :													
Egremont	—	—	—	1	—	—	—	1	—	1	—	—	3
Liscard (Proper)	—	1	1	—	1	—	1	—	1	1	—	2	8
New Brighton ...	1	—	1	—	—	—	1	1	1	1	1	1	8
Wallasey	—	—	—	—	1	—	—	—	—	—	—	—	1
Totals	1	3	4	2	2	—	3	3	5	4	1	3	31

The 3 deaths from typhoid fever are equal to a death-rate of .04 per 1000 living.

It is obvious that the District is reaping the advantage of the extensive re-construction of sewers, carried out in late years, and which is still in progress.

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The number of cases of enteric fever, and the number of deaths since 1897, together with the death-rate per 1000, appear in the following table :—

1897	...	9	...	0.20	...	93	...	0.16
1898	...	9	...	0.19	...	87	...	0.18
1899	...	11	.	0.23	...	132	...	0.20
1900	...	17	...	0.32	...	163	...	0.17
1901	...	31	...	0.57	..	257	...	0.16
1902	...	12	...	0.21	...	64	...	0.13
1903	...	5	...	0.08	..	47	...	0.10
1904	...	7	...	0.12	...	39	...	0.09
1905	...	8	...	0.13	...	61	...	0.09
1906	...	5	...	0.08	...	65	...	0.09
1907	...	3	...	0.04	...	31	...	0.07

An examination of the notified cases shows that only a few were imported, *e.g.*, one girl aged 12 came home ill from a Boarding School, and her illness turned out to be typhoid. Another case had plainly been contracted in a town from whence the patient had returned a short time before. There were not many cases arising from eating oysters, mussels or cockles.

Diarrhœa caused 16 deaths, 14 of which were of infants under 1 year of age.

When a young child is seized with epidemic diarrhœa during very hot weather, it is an extremely serious matter, even under favourable conditions, such as good medical attendance, good nursing, careful feeding, and well ventilated, spacious rooms, and recovery is often slow. When, on the contrary, the child does not get medical attendance till perhaps the disease has become serious, when there is only one common living-room occupied by the whole family, when the feeding and nursing are bad, and foul feeding bottles are used, then it is no wonder that weak infants and children succumb in such numbers, and that this disease so often heads the most fatal of zymotic diseases.

Diarrhœa, &c., in Oakdale and Wheatland Lane.

—For many years diarrhœa and enteritis prevailed extensively in Oakdale and Wheatland Lane.

The decrease of these diseases since 1898 (with the exception of the year 1906) is shown below. There seems no doubt

Wallasey Urban District.

this improvement is due to the re-draining of the Districts, and the sanitary improvements which have been made.

Years.	1898.	1899.	1900.	1901.	1902.	1903.	1904.	1905.	1906.	1907.
Diarrhoea and Enteritis Deaths in whole District ...	85	82	49	54	24	48	71	47	86	27
Diarrhoea and Enteritis Deaths in Oakdale and Wheatland Lane Districts	29	13	16	15	4	14	22	7	31	9

The Care and Feeding of Infants.—The question of providing premises for the preparation of sterilised and humanised milk for infants was carefully considered by the Health Committee; a deputation visited the chief depôt in Liverpool, and saw all the details of the work carried on there. They were most favourably impressed by the Liverpool system, but it was found that the expense would be great, especially as, in many instances, it is not really the poorest classes who avail themselves of this milk supply, and one depot would probably not suffice for the whole District.

Report of Female Sanitary Inspector.—Miss Birrell, the Female Sanitary Inspector, has again done much good work. Although her report deals with various other matters, it is convenient to introduce it here, as so many of her duties have to do with the care and treatment of infants. It will be seen that it contains many interesting details of her numerous visits, and the Medical Officer of Health looks to see excellent results therefrom. Her report is as follows :—

The printed directions as to the feeding of infants are clear and short, and are distributed freely as soon as the onset of hot weather makes it likely that diarrhoea may speedily prevail, although Miss Birrell does not confine her instructions to that special period of the year. She says—

“House-to-house visitation amongst the poorer classes
“has occupied most of the time of the Female Inspector
“during the year. Amongst the very lowest, constant
“supervision is still necessary in order to secure any
“degree of cleanliness.”

Greater readiness in carrying out the advice given regarding the cleanliness of the house and children is observed, and especially regarding the feeding of infants. In many cases where infants have been found being fed from long tube bottles, the mothers have quite willingly replaced these by tubeless bottles.

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In connection with the routine house-to-house work, where tenants have complained of the verminuous condition of the house walls the Health department have offered to strip the walls where necessary, and to provide the tenant with brushes and lime, in order that they may be thoroughly cleansed. In only one instance has this offer been accepted.

Several cases of old and infirm people who were living under very filthy conditions were discovered during the year.

As they were unable to keep themselves or their rooms in a cleanly state, and apparently had no friends to assist them, or means to provide help, they were induced to go to Tranmere Workhouse.

Children found to be habitually neglected are referred to the Society for the Prevention of Cruelty to Children, and genuine cases of distress to the Relieving Officer or the Guild of Help.

Where cases of child neglect are notified by the teachers, the child is visited both at home and in school until improvement results.

All workshops where women are employed have been visited during the year. Generally, the conditions under which the work is carried on are very good.

During the summer and autumn months, comparatively very few diarrhoea cases were discovered.

Sixty special visits were paid to such cases and advice given regarding feeding, etc.; in addition, fourteen houses at which deaths had occurred from this cause were also visited, and particulars obtained. The following tables show the age and method of feeding at time of death:—

AGE AT DEATH.

Under 12 months.	Between 1 and 2 years.	Total.
13	1	14

METHOD OF FEEDING AT TIME OF DEATH.

Breast-Fed entirely.	Breast and Bottle.	Bottle entirely.	Total.
1	4	9	14

Sewer Repairs and Re-constructions.—Owing to extensive building developments and the consequent rapidity with which certain sewers have at times of heavy rainfall become surcharged with water, a considerable amount of storm relief work has been carried out during the past year, in different parts of the District, with very beneficial results.

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The following defective sewers have been re-constructed :—

Main Brick Sewer, Brighton Street, 127 lineal yards re-inverted and repaired.

Trafalgar Road, Passage at rear of			
Nos. 75 to 83	...	...	37 yards pipe sewer.
Prescott Street, Passage West side	72	„	„
Ashville Road ..	...	98	„ „
Oakdale, between Middle Road and			
West side of Short Street ..	65	„	„
Bosnia Street	...	32	„ „
Short Street, Passage West Side...	50	„	„
Grosvenor Road	...	125	„ „
Oakdale, between Hawthorndale			
Road and West side of			
Cherrybank Road	...	90	„ „
Victoria Road, New Brighton,			
Passage rear of South side	...	180	„ „
Aylesbury Road	...	12	„ „

Twenty-four special connections for house drains have been put in from the main sewer to the drain interceptor, on behalf of, and at the cost of property owners. This procedure is followed in Leasowe Road and in all cases where drains have to pass under tram lines.

Thirty-eight new manholes have been constructed, and several new ventilating shafts erected. A large number of new gullies have also been fixed.

Special attention has been given to sewer flushing and 2,502 manholes have been scrubbed down and disinfected.

Drainage Re-constructions.—The Sanitary Officers of the Health Department have, in connection with the notification of typhoid fever, supervised during the past year the re-construction of the drainage systems (partial or entire) at the following houses :—

92, Brighton Street, Seacombe.

6, Buchanan Road, Seacombe.

5 and 6, Seabank Avenue, Egremont.

28, Rossett Place, Liscard.

Wallasey Urban District.

Drainage re-construction (partial or entire) has also taken place at the following houses where diphtheria has been notified :—

- 7, Charlotte Road, Egremont.
- 2, Clifton Terrace, Withen's Lane, Liscard.
- 61, Wheatland Lane, Seacombe.
- 17, Byerley Street, Seacombe.
- 91, Gladstone Road, Seacombe.

The next Table gives the total number of cases admitted to hospital since 1897, and also details as to those admitted in 1907.

Isolation Hospital Accommodation is provided at the hospital in Mill Lane, and (for small-pox) at the hospital in Leasowe Road. The small-pox hospital was not required in 1907. The number of cases admitted in Mill Lane Hospital, in the 11 years, 1897 to 1907, is given below, together with full particulars of the nature of the cases treated in 1907, and the localities from which they were derived.

Year	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Admission	171	163	191	175	246	294	397	239	330	263	279

TOWNSHIPS.		Years.	Small-pox.	Diphtheria.	Membranous Croup.	Erysipelas.	Scarlatina.	Typhus.	Typhoid.	Puerperal.	Chicken-pox.	Observations.	Totals.
Poulton- cum- Seacombe	Poulton	.. { Under	5 —	2*	—	—	3	—	—	—	—	—	5
		Over	5 —	9	—	1	13	—	4†	—	—	—	27
	Seacombe	... { Under	5 —	—	—	—	11	—	1	—	—	—	12
		Over	5 —	5	—	1	49†	—	7*	—	—	—	62
Liscard.	Egremont	... { Under	5 —	4	—	—	6	—	—	—	—	—	10
		Over	5 —	13*	1*	—	24*	—	3	—	—	1	42
	Liscard	... { Under	5 —	3	—	—	15	—	—	—	—	—	18
		Over	5 —	12*	—	1	43*	—	6	—	—	—	62
	New Brighton	{ Under	5 —	2*	—	—	5	—	—	—	—	—	7
		Over	5 —	7	—	—	10	—	3	—	1	—	21
Wallasey	...	{ Under	5 —	1	—	—	1*	—	—	—	—	—	2
		Over	5 —	3	—	—	8	—	—	—	—	—	11
Totals		... { Under	5 —	12	—	—	41	—	1	—	—	—	54
		Over	5 —	49	1	3	147	—	23	—	1	1	225

*=One death. †=Two deaths. ‡=Four deaths. 279

NOTE.—For the purpose of more defined Localisation:—Poulton includes that portion of Poulton-cum-Seacombe Township to the West of Wheatland Lane. Liscard Township is above divided into Egremont (portion of Liscard between Seacombe and Green Lane). Liscard Proper, including Liscard Village, Magazines, and on to Magazines Lane and Mount Pleasant, and New Brighton, including rest of Liscard Township.

Wallasey Urban District.

It will thus be seen that 16 more patients were admitted than in 1906, 10 more scarlatina and 31 more diphtheria, but 24 fewer typhoid patients. The deaths altogether were 14, as against 16 in 1906.

The accommodation at Mill Lane was, during the year 1907, quite equal to the demand for beds, and for a time the new pavilion—No. IV.—was empty, No. III. being sufficient for the scarlatina patients. The typhoid pavillion (No. II.) had fortunately many empty beds.

The accommodation is now :—

Pavilion	No.	I.	10	beds.			
Do.	do.	II.	12	beds,	with	2	convalescent rooms
Do.	do.	III.	24	do.	do.	do.	do.
Do.	do.	IV.	20	do.	do.	do.	do.

in all, 66 beds—but as many of the patients are children, it is easy to increase the accommodation to 80 beds—including cots.

Leasowe Road Hospital for small-pox (with 9 beds), was fortunately not required during 1907.

Return Cases.—Some remarks on return cases will be found under the heading scarlet fever in a previous part of my report.

It may not be amiss to repeat here what was said on this subject last year.

To prevent such return cases, every possible precaution is taken before the discharge of a patient from hospital, both as to complete disinfection of the patient, and all clothing; but so subtle is the infective power of this disease, that, even after a prolonged stay in hospital now and then return cases will occur, when it may be quite impossible to find out the cause. As an additional precaution, the following slip is given to all parents or guardians when a patient is discharged :—

MILL LANE INFECTIOUS HOSPITAL.
NOTICE.

Every possible precaution is taken to ensure that each patient is free from infection before being discharged from hospital. In the case of SCARLET FEVER, however, it is impossible to be absolutely certain that this is the case, as the infection is considered to remain, in some cases, in the nose and air passages, and is best got rid of by change of air away from the hospital.

Wallasey Urban District.

It is strongly recommended that patients after being discharged should keep apart from other children, as far as possible, for at least a week. During this time, children who have been at hospital should not be allowed to sleep with other children, or to kiss them. They should spend as much time as possible in the open air, if the weather is not cold.

Convalescent scarlet fever patients **SHOULD NOT ATTEND SCHOOL** for at least a fortnight after leaving the hospital.

Should there be any return of running or discharge from the nose or ears, especially the former, in a person recently discharged from hospital, the patient should be isolated, and a doctor called in.

By Order of the
HOSPITAL COMMITTEE.

December, 1905.

The matron, Miss Malcolm, with three sisters and an efficient staff of nurses, carry on successfully the arduous work of nursing the large number of patients admitted during the year. Miss Haig, who was appointed as dispenser more than a year ago (acting also for the Central Hospital and Wallasey Dispensary), discharges her duties in a most satisfactory way, and with economy to the Council.

Flushing Sewers and House Drains.—The flushing of public sewers is in the hands of the Surveyor and Engineer's staff. An enormous flushing tank (holding 1,800 gallons, and with a 12in. outlet) was procured for the purpose, and this began systematic work early in 1898. Three separate gangs are employed for flushing the sewers and back passages. A tank holding 500 gallons is used for the branch sewers, and where the tanks are inapplicable (as in back passages, etc.) hose-piping is used. Quite independent of these are the three gangs belonging to the Sanitary Department, entrusted with the flushing of house drains. These gangs were constantly employed throughout the year, and the drains, etc., of each house in the District have been flushed at least twice. Each gang has been provided with a set of Cooper's Patent Suction Pumps, and thus many drains found choked are cleared, without the ground having to be opened. During the summer, disinfectants were freely used in connection with this work. The flushers reported many defects as regards sanitary fittings, on premises visited, which were

Wallasey Urban District.

dealt with in the usual way. The flushing of drains at houses where cases of infectious disease are notified, receives special attention. All the large schools are also specially visited by a flushing gang.

Unfortunately, the limited supply of water prevents these gangs from carrying out their work in a perfectly satisfactory manner.

A more abundant supply of water, either fresh or salt is much needed, and measures to obtain this have been taken.

Nuisances caused by Occupiers.—Many notices have this year been served upon the occupiers of premises to abate nuisances caused by neglect, and to keep the gullies and sanitary conveniences clean and in good order.

House-to-House Inspections were proceeded with during 1907, as time permitted, and thus many defects were discovered and improvements effected.

As in previous years a house-to-house inspection was made of the premises on the Lower Parade, prior to the Easter holidays, the whole of the Staff assisting in this special work. Several defective conditions were found to exist, for the remedying of which the usual steps were taken, and were effective.

Drain Testing.—A considerable portion of the Inspector's time is taken up in testing house drains and fittings, and according to his experience the value of such testing cannot be over-estimated. He makes use of the usual smoke-testing machine or the so-called rockets. However, he points out that it is quite possible for serious defects to exist, and yet not be discovered by any smoke test. This may occur when the drains are at any considerable depth, or where the ground above them is impervious. In a few cases the hydraulic test was applied.

Disinfection.—Infected houses or rooms have been disinfected thoroughly with sulphur fumes, in the usual way, or with formic aldehyde gas by means of Sharratt's apparatus, which has been found to work well. The objectionable odour, noticeable in rooms for so long after disinfection by sulphur fumes, is avoided by the use of formic aldehyde. At the request of the Medical Attendant, disinfection of rooms and clothing has followed in connection with many cases of phthisis. The steam disinfector has been in constant use for the disinfection of bedding and clothing. A van is employed for removing infected articles, and another for returning the articles after disinfection.

Wallasey Urban District.

In all 4,508 articles of clothing, etc., and 451 beds and mattresses were dealt with. There were 398 rooms disinfected.

Various articles of bedding, clothing, etc., so foul, or in such a bad condition as to render them unfit for further use, were destroyed, and new goods supplied in lieu thereof.

Disinfection of Library Books.—Intimation has for some time been sent to the Chief Librarian of the Free Public Library, notifying him the addresses at which cases of infectious disease have occurred; but hitherto there has been a difficulty in satisfactorily disinfecting books, belonging to the Free Library or other Libraries, found in infected houses. However, during 1900, the Chief Inspector had erected at his offices a special chamber in which infected books have been since disinfected by formic aldehyde. Perforated metal shelves are fixed across the chamber, on which the books are arranged, so as to allow the gas to circulate freely through and around them. To facilitate disinfection the temperature of the chamber is raised 52 degrees F.

Dairies, Cowsheds and Milkshops.—In accord with the regulations made by the District Council under the Dairies, Cowsheds, and Milkshops Order, it is required that 800 cubic feet of air space be allowed for each cow. There were on the Register in 1906 19 cowkeepers and 96 dairymen and purveyors of milk, occupying in the aggregate 38 cowsheds and 99 dairies, milkshops, and milkstores. Six cowkeepers and 15 purveyors of milk discontinued business during 1904, and applications were received from 1 cowkeeper and 21 purveyors of milk to be registered. During 1907 13 new shops for the sale of milk were opened.

In all cases of new Registrations, the premises proposed to be utilised have been visited, in order to see that they were suitable for the purpose intended.

Circulars have been periodically issued to all cowkeepers and purveyors of milk, reminding them of the regulations respecting lime-washing, lighting, ventilation, cleansing, drainage, water-supply, etc. In no case has it been found necessary to resort to legal proceedings to enforce the regulations made by the Council under the Dairies and Cowsheds Order with respect to these trades.

Factories and Workshops.—There are at present on the register 282 registered workshops, including bakehouses and laundries. To these 996 visits of inspection were paid, and 50 written notices were served. No prosecutions were necessary. There were also 76 inspections of outworkers' premises.

Wallasey Urban District.

Vaccination Returns. — They refer to 1,746 births, registered during the year ending June 30th, 1907. The particulars are supplied by the Vaccination Officer.

Successfully Vaccinated	1,487
Died before Vaccination	122
Insusceptible	6
Conscientious Objectors	10
Postponed by Medical Certificate	48
Removed, Traced, and Vaccination Officers notified	23
Not found, or removed to places unknown	45
Not Vaccinated, or otherwise accounted for	5
<hr/>	
Total Births Registered	1,746

In the year ending June 30th, 1907, only 0.9 per cent. escaped vaccination. In the year ending June 30th, 1901, 2.1 per cent. escaped, in the year ending June 30th, 1902, 2.5 per cent. escaped, in the year ending June 30th, 1903, 3.0 per cent. escaped, in the year ending June 30th, 1904, 1.9 per cent. escaped, in the year ending June 30th, 1905, 2.5 per cent. escaped, and in the year ending June 30th, 1906, 2.1 escaped vaccination.

These are very satisfactory records, and show how efficiently the new Vaccination Act has been carried out in Wallasey District. It will be observed that only 10 persons received exemption under the Conscience Clause.

Water-supply. —Particulars of the amount of water pumped, and its distribution are supplied by Mr. J. H. Crowther, the Gas and Water Engineer. The average quantity used per head, per day, in 1907 was 33.54 gallons. It was divided as follows :—

Supplied by Meter	6.82 galls.
Supplied to Shipping... ..	.18 „
Watering Streets and Roadmaking ... ..	.38 „
Flushing Sewers by Hose and Cart ... ..	.30 „
Domestic and other purposes, including Drinking Fountains	25.86 „

The quantity of water used for flushing sewers and drains during the year was 6,993,500 gallons.

Wallasey Urban District.

The entire volume of water supplied, during 1907 was 771,311,039 gallons. This volume was made up as follows:—

From Wells at Liscard	...	578,682,039	galls.
From Vyrnwy	... ..	192,629,000	„
Average supplied per day	..	2,113,181	„

It was mentioned in the last Annual Report that the supply of Vyrnwy water commenced on October 10th, 1903. Some time since, owing to the old Poulton wells, Nos. 1 and 2, having become impregnated with too large a proportion of salt, it was felt that it was not safe to depend entirely on the Sea-view Road well. After long and protracted consideration of the subject of water-supply, it was finally decided not to seek an independent source, but to apply to Liverpool to provide Vyrnwy water. The result of this was that a pipe line was laid near Norton Tower, in the Delamere District, from the Liverpool main line.

Sale of Food and Drugs Acts.—There were 117 samples of food, etc., taken during 1907, and submitted to the County Analyst for analysis. Particulars are as follows:—

Name of Sample.				No. of Samples.	No. of Samples certified as Adulterated.
Arrowroot	...	...	...	1	—
Butter	...	...	...	36	—
Cheese	...	...	...	2	—
Cocoa	...	...	...	1	—
Coffee	...	...	...	2	—
Cream of Tartar	...	...	...	3	—
Gin	...	...	...	3	—
Ginger	...	...	...	1	—
Lard	...	...	...	2	—
Margarine	...	...	..	*2	—
Milk	...	...	...	52	—
Pepper	...	...	...	1	—
Rum	...	...	...	3	—
Tartaric Acid	...	...	...	1	—
Whiskey	...	...	...	7	—
Totals	...	...	...	117	—

* All served in properly marked wrappers.

Five samples of milk were reported against, as barely up to the standard of quality; the cases were inquired into, and the sellers warned. Three of these samples were traced to the same source.

Wallasey Urban District.

The Chief Sanitary Inspector, Mr. H. S. Bascombe, furnishes information on matters coming under his supervision.

Abatement of Nuisances.—The number of notices served for the abatement of nuisances during 1907 was 2,987. In many instances the notice referred to several distinct nuisances. The abatement of many nuisances was obtained without formal notice. The nuisances abated were the result of insufficient drains, defective or choked drains, broken water fittings, no water supply or insufficient supply, house drains directly connected, waste pipes directly connected, waste pipes untrapped or badly arranged, soil pipes not ventilated or ill-ventilated, rain pipes directly connected, defective rain conductors on roofs, defective traps or channelling, offensive accumulations, defective ashpits, privies and water-closets, defective cisterns, offensive ponds, yards lodging foul water, damp walls, dirty or overcrowded houses, animals so kept as to be a nuisance, etc. Houses with defective or dangerous floors, staircases or walls, were also dealt with, as well as rooms insufficiently lighted and ventilated. Eight smoke nuisances were noted and dealt with—each notice served has, besides describing the cause of the nuisance complained of, specified the sanitary work required to abate the same, in the most satisfactory and economical manner. Particular care has been taken not to put owners or occupiers to unnecessary expense.

Sewer Ventilators.—The system of ventilating sewers by means of shafts attached to buildings, and the closing of street surface ventilators, has been extended, wherever circumstances rendered it advisable; and at the summits of several main sewers tall ventilating columns have been erected.

Refuse Removal.—On July 1st, 1897, the Health Committee began to undertake the collection of nightsoil with their own staff of men, horses and carts. This department of sanitary work is now being carried on smoothly and effectively, in marked contrast to the lax methods followed by contractors. These gave rise to numerous and well-founded complaints; as to full ashpits, such complaints have practically ceased.

In many of the new houses, and also in many old ones, covered dustbins have been substituted for ashpits. They are a great improvement, and are emptied weekly, on Fridays. As they are scattered all over the District, a good deal of extra trouble is entailed in dust collection. However, as the improved receptacles

Wallasey Urban District.

become more general they will save work, being more easily emptied. They have handles by which two men can carry them to the cart and empty the contents therein at once ; and thus is avoided the emptying on the road of foul material till the cart comes round to pick it up. The noise made by barrows and shovelling is also done away with. A revolution in the old system of refuse removal is thus being quietly effected. The new method is, of course, much more in accordance with modern sanitary ideas, preventing accumulations of refuse remaining any length of time in close proximity to houses. The bins only cost a few shillings apiece, and any householder can do away with the ashpit nuisance altogether by substituting a covered dustbin, which will be emptied by the Council's men.

For Schools and Public Institutions, as for Private houses, ashbins are a great improvement on the old system.

It is very objectionable to see the great heaps of unsightly night-soil lying in some roads occupied by good houses, waiting till the carts come round to collect it. It is no wonder that in poor localities the tenants or landlords do not go to the expense—trifling as it is—of providing bins, where ashpits are already in existence. It is, however, a matter of astonishment that the tenants of large houses should put up year after year, with the old ashpits harbouring all sorts of refuse for six weeks or more, when a weekly collection by means of the bins is offered by the Council. Unless compulsory powers are obtained to enforce the adoption of the bin system, it appears the old system of ashpits will linger for a long time.

The recent researches on the breeding of flies, and the part they play in carrying into human food the germs of typhoid, zymotic diarrhœa, and possibly other diseases, render all the more urgent the advisability of taking steps to hasten a universal adoption of this system. The frequent emptying of such bins makes it impossible for the eggs of flies to hatch in them, whereas, from the infrequent emptying of ashpits there is plenty of time given for hatching. For the same reason all collections of manure should be removed from stableyards, shippon-yards, etc., at least once a week.

The Destructor for the cremation of refuse, situate in Gorsey Lane, which was opened in June, 1895, was added to in 1897, the six cells being supplemented by six more. The power developed by the heat generated in the destructor cells is used for the production of electricity to light the premises, and also for turning a mill to grind the clinkers and make mortar, which is

Wallasey Urban District.

sold to builders. The stabling and other buildings for the plant used in the collection of nightsoil, etc., were completed satisfactorily during 1897.

Insanitary Property.—It is a matter of regret that more has not been accomplished in the matter of doing away with insanitary property in the District. Big schemes for providing promenades, parks, and widening of roads, have swallowed up huge sums of money, and none has been forthcoming for more modest schemes in out-of-the-way parts. In default of such a provision, all that could be done was to make the best sanitary arrangements possible under the circumstances for such crowded neighbourhoods. The yard and open air-space are often in these cases lamentably deficient, as was frankly admitted by the Committee when visiting these places some time ago, and it is to be hoped before long it will be found possible to make the needed improvements.

Unsound Meat, &c.—As usual, a large amount of meat has been seized at the Foreign Animals' Wharf, Wallasey, and Alfred Docks. The entire quantity seized was as follows :—

Beef	...	...	...	2798 lbs.
Mutton	...	...	...	1,746 „
Veal	...	...	...	18,300 „
Offal	...	..	..	33,290 „

Total seized at Foreign Animals'

Wharf and destroyed ... 56,134 „

The butchers' and fish and poultry shops have been visited once in each week, and their contents examined. 400 lbs. of meat, etc., have been removed and destroyed in connection with this inspection.

Visits of inspection (to the number of 2,431) have been paid to the abattoirs and to private slaughter-houses, and 5,838 lbs. of meat, etc., have been removed and destroyed, in connection with this inspection ; 1,520 visits have been paid to cattle pens at the lairages.

The details of the meat, etc., dealt with are as follows :—

Beef	...	...	...	4228 lbs.
Mutton	...	...	...	736 „
Pork	...	...	...	730 „
Offal	...	...	...	92 „
Lamb	...	...	...	52 „
Veal	...	...	...

5838 „

Wallasey Urban District.

The contents of hawkers' carts and baskets have also been regularly inspected, but no unsound food stuff has been found.

In a number of cases the owners of fish carts have been cautioned as to depositing fish offal on the public highway.

Offensive Trades.—The premises used for knackerie, and other offensive trades in the neighbourhood of Havelock Street, Seacombe, have been kept under constant supervision during the year. The usual limewashing and cleansing have been carried out in a satisfactory manner.

Canal Boats.—Three inspectors now devote a portion of their time to inspecting canal boats. Visits are paid at least once a week to the Great Float (north side) and the Wallasey and Alfred Docks and entrances. The number of boats inspected in 1907 was 333, in 1906 the number inspected was 332, in 1905 it was 331, in 1904 313, and in 1903 320.

The general cleanliness of the boats has been well maintained, the strict systematic supervision exercised during the past few years being in a large measure responsible for the satisfactory conditions.

In 43 instances the boats did not comply with the requirements of the Canal Boats Acts, or Regulations made thereunder. In 4 cases the master failed to produce a certificate, 18 boats were not properly lettered, in 15 the cabins needed painting.

Notices were served on the owners of the boats failing to comply with the regulation, and the defects were remedied.

WILMSLOW

Urban District.

Medical Officer of Health—DR. A. BYERS.

Population at Census, 1901—7,361.

Estimated Population in middle of 1907—8,000.

Area in acres—5,090.

Birth-rate per 1,000 living—21 1.

Death-rate per 1,000 living—12 1.

Death-rate from seven principal Zymotic Diseases—0.6.

Deaths under one year to 1,000 births—65.

This Urban District was formed of part of Fulshaw, part of Bollin Fee, and part of Pownall Fee.

The population of the whole District was 6,344 at the Census in 1891, and 7,361 at the Census in 1901. The increase in the population during the decennium 1891-1901, was thus 1,017, that is 16 per cent. The estimate of the population made for the middle of the year 1907 is 8,000.

During 1907 the number of births registered was 169, of which 5 were illegitimate. The number of deaths registered was 97, including 10 deaths of persons belonging to the District which occurred elsewhere.

The birth-rate is 0.7 below the average in 1897-1906, and the death-rate is 2.3 below the average in the same 10 years.

Five deaths occurred from the principal zymotic diseases, viz.:—1 measles, and 4 whooping-cough. There was 1 death from puerperal fever, 6 were from phthisis, 1 from other tubercular disease, 11 from cancer, 6 from bronchitis, 7 from pneumonia, 2 from alcoholism, 2 from premature birth, 1 from disease or accident of parturition, 17 from heart diseases, 1 from accident, and 2 from suicide.

Eleven of those who died were under 1 year of age, and 38 were 65 years old, and upwards.

Cases of Infectious Disease notified.—There were 75 cases of infectious disease notified, viz.:—1 diphtheria, 1 erysipelas, 13 scarlet fever, 1 enteric fever, and 59 measles. Four cases of scarlet fever were removed to hospital, at Baguley.

Wilmslow Urban District.

Measles.—Owing to the prevalence of this disease, Dean Row School was closed, from March 12th to April 15th. Of the 59 cases only 1 died.

Two persons were prosecuted for wilfully exposing a child suffering from scarlet fever, in a public place. Both were convicted.

Isolation Hospital Accommodation.—Wilmslow is one of the Districts forming the Bucklow Joint Hospital District, and thus has Hospital accommodation for the isolation and treatment of infectious cases, including cases of small-pox.

Steam Disinfector.—Infected bedding, etc., can be disinfected at the Hospital disinfector by arrangement.

Arrangement with Professor Delepine.—The District Council have made arrangements with Professor Delépine, Victoria University of Manchester, whereby Medical Practitioners can obtain a bacteriological examination of material from doubtful cases of diphtheria, typhoid fever, etc., the Council undertaking to pay the fees.

Water-supply.—The water supplied by the Stockport Corporation Waterworks is obtained from boreholes in the new red sandstone.

The water is pumped into a softening plant, where it is treated with lime only. As raised from the boreholes, the hardness of the water is about 14 degrees “Clarke’s” Scale, and after treatment, is from 6 to 7 degrees. The supply is good and ample for all requirements of the District.

Dairies, &c.—Regulations made by the District Council under the Dairies, Cowsheds, and Milkshops Order, came in force on January 1st, 1900. Active measures are taken to give effect to these regulations.

Factory and Workshop Act.—Attention has been paid to this Act. The premises coming within scope of the Act have been inspected, and suggestions for alterations and improvements made by the Medical Officer of Health have been willingly carried out by the owners. As a whole, the conditions of these premises has been found satisfactory.

Wilmslow Urban District.

House Accommodation for the Working Classes is good and sufficient.

Lodging-houses have been inspected and found to be in good order.

Slaughter-houses have been inspected and found to be in a fairly satisfactory condition. The owner of one licensed slaughter-house was convicted of having in his possession a tuberculous carcase unfit for human food. His license was revoked. This case emphasises the need of a public slaughter-house.

Sewers and Sewage Treatment.—The sewers and the Northern and Southern Outfall Works are working satisfactorily.

Refuse Removal is done by the occupiers of the premises. It is very desirable that this primitive and unsatisfactory system should be abolished, and the Council provide a refuse destructor, and undertake the work of removing and destroying house refuse.

This would improve the sanitary condition of the District, and would put an end to the promiscuous tipping which at present disfigures one of the main approaches to Wilmslow.

Nuisance Abatement.—Nuisances reported or discovered receive attention, and steps are taken to obtain their abatement.

WINSFORD

Urban District.

Medical Officer of Health—DR. T. W. H. GARSTANG.

Population at Census, 1901—10,382.

Estimated Population in middle of 1907—10,430.

Area in acres—5,780.

Birth-rate per 1,000 living—28.5.

Death-rate per 1,000 living—13.7.

Death-rate from seven principal Zymotic Diseases—1.0.

Deaths under one year to 1,000 births—104.

The population of Winsford Urban District was 10,440 at the Census in 1891, and 10,382 at the Census in 1901. The decrease of the population during the decennium 1891-1901 was thus 58, that is 0.55 per cent.

The Urban District consists of the Parishes of Over and Wharton. The area and population at the date of the Census are given as follows:—

	Area in Acres.	Population at Census.
Over	4,527	7,063
Wharton (including Gravel Lane)	1,253	3,319

During the decennium, the population of Over increased by 228, and the population of Wharton decreased by 286.

It is estimated that in the middle of the year 1907 the population of Over was 7,160, and the population of Wharton was 3,270.

During 1907 the number of births registered was 298, and the number of deaths registered (excluding 3 not belonging to the District, and including the deaths of 5 residents which occurred elsewhere) was 143. During 1897-1906 the corrected average birth-rate was 30.1, and the corrected average death-rate was 14.8. The birth-rate was therefore 1.6 below the average in the District in these 10 years, and the death-rate was 1.1 below the average in the same 10 years.

Illegitimate Infants.—The number born was 23 ; 7.7 per cent. of all births. Of these, 1 died, that is 4.4 per cent., whilst 30 deaths among 275 legitimate births give a rate of 10.9 per cent.

Winsford Urban District.

Uncertified Deaths.—These were 5 in number: a female child, 8 months, convulsions from teething; a male infant, 3 days old, convulsions; male, 52, heart disease; female, 4 years, diphtheretic croup; and male, 3 months, bronchitis.

Coroner's Inquests.—These were held in 13 cases on residents, viz.:—male, 64 years, Bright's disease and exposure; male, 2 years, accidentally drowned in a pit; male, 54 years, found drowned; female, 26 years, puerperal fever; male, 9 years, accidentally drowned; female, 24 years, puerperal fever; male, 41 years, injury to spine from a fall; male, 1 day, debility; male, 69 years, suffocated in a ditch into which he fell whilst in a fit; female, 4 years, accidental burns; male, 39 years, fractured pelvis, from a crush; male, 58 years, heart failure; female, 44 years, chronic rheumatism.

Infantile Mortality.—The deaths under one year of age were below the average, being only 104 per 1,000 births. The Medical Officer of Health cannot understand why there should be such extreme variations between the years 1906, which was (with 1 exception) the highest rate on record, and 1907, which was (also with 1 exception) the lowest on record.

Cases of Infectious Disease notified.—The number of cases of infectious disease notified in 1907 was 80, viz.:—20 membranous croup, 16 erysipelas, 34 scarlet fever, 1 enteric fever, and 9 puerperal fever. Of these, 42 were removed to hospital, viz.:—12 membranous croup, 29 scarlet fever, and 1 enteric fever.

Zymotic Disease.—There were 11 deaths from the principal zymotic diseases, viz.:—1 measles, 3 whooping-cough, 5 diphtheria, and 2 diarrhoea. The 11 deaths are equal to a death-rate of 1.0 per 1,000 living.

Vaccination.—With the assistance of the Vaccination Officer, the Medical Officer of Health is able to give statistics as regards vaccination for the Over Sub-District of the North-wich Union, of which the town of Winsford forms more than three-fourths. The statistics are for a period of ten years.

Winsford Urban District.

Year.	Number of Births Registered.	Successfully Vaccinated.	Insusceptible.	Had Small-pox	Dead Unvaccinated.	Postponed on Medical Certificate.	Removed, and Traced.	Removed, and Lost.	Conscientious Objections.	Unaccounted for.
1896	472	422	1	—	41	6	—	2	—	—
1897	450	398	—	—	49	2	—	—	—	1
1898	428	379	—	—	43	2	1	—	2	1
1899	421	385	—	—	32	1	2	—	1	—
1900	428	374	—	—	37	13	1	1	2	—
1901	393	361	—	—	22	7	—	1	2	—
1902	404	374	1	—	24	3	—	—	2	—
1903	403	350	—	—	42	4	2	—	5	—
1904	427	373	1	—	41	5	1	1	5	—
1905	403	358	—	—	29	8	2	—	6	—
Total in 10 years.	4239	3774	3	—	360	51	9	5	25	2
1906	399	334	—	—	43	9	1	—	12	—

In 1906, there were 334 children vaccinated out of 356 surviving. Practically the same results have been obtained during the whole ten years to which the figures refer.

Measles.—A somewhat severe epidemic arose in the later months of the year. It began in Over, and afterwards spread to Wharton. Two lady-inspectors were appointed in Over; and at a later period a qualified nurse was appointed in Wharton; to make daily domiciliary visits and give advice. 120 cases were known and visited, up to December 31st, and only one death occurred, a child in its second year, which died from pneumonia. Mr. Hickson, the Inspector, visited many cases himself, besides supervising the work of the lady-inspectors; he kept a careful record of cases, and communicated almost daily with the Medical Officer.

Whooping-cough.—A severe epidemic was prevalent at the same time as measles. This is a disease much more difficult to control than measles. In the present case much use was made of the lady-inspectors (above referred to). 120 Cases were known and visited, up to December 31st. Three deaths occurred, all of children under 2 years of age, and all from pneumonia as a complication. Contrasting this with the uncontrolled epidemic of 1897, when an unknown number of cases caused 33 deaths, it appears certain that this epidemic, like measles, was beneficially affected by the measures taken.

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Chicken-pox and Mumps were also prevalent, to a smaller extent, at the same time, 18 and 8 cases respectively being officially known and visited.

Scarlet Fever.—Thirty-four cases occurred, of which 12 were scattered over the District (Over, 4; Wharton, 8); and throughout the whole year. The first 4 (February to April) were not removed; the last 8 (May to December) were sent to hospital. The remaining 22 cases formed a well-defined epidemic in the Meadow Bank neighbourhood, 3 in September, 7 in October, 6 in November, and 6 in December. The whole of these were removed to hospital. No deaths occurred. It is impossible to speak too highly of the Inspector's work here again. He discovered several cases himself, by house-to-house visitation, had a doctor called in, and all the children were safe in hospital before their parents (if it had been left to them) would have known that there was danger. Disinfection was promptly carried out in every case. Only 11 houses were affected; one contributed 7 cases, 2 had 3 each, and 1 had 2. This is fairly good evidence as to the vitality of the infection.

Diphtheria.—Twenty cases occurred, with 5 deaths.

Diarrhœa caused 2 deaths, both of children under one year of age, 1 in January and 1 in August. The latter was certified as "gastro-enteritis," so that a complete absence of summer, or epidemic, diarrhœa is to be noted.

Puerperal Fever.—Nine cases were notified, and 5 deaths. There is little doubt that other milder cases also occurred. The first case was in January, in the practice of Midwife A, (who has had previous cases, 1 fatal); this case died. The second case was in March, in the practice of Midwife B, (an old, untrained woman, who has had at least 1 case previously); this recovered. The third was in March, in the practice of Midwife C, (a fairly satisfactory Midwife); this recovered. The fourth and fifth cases, both fatal, occurred in June, in the practice of Midwife A. These were the subjects of inquest; and this Midwife's name was removed from the Roll by the Central Midwives' Board. The sixth and seventh cases occurred in September, in the practice of Midwife C, and the sixth case was also attended by a medical practitioner in the first instance. Very unfortunately, no notification of this case, which proved fatal, was made, and the Medical Officer only learned of it from the Registrar's

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list of deaths. (The Council severely censured the medical practitioner). The second case was infected directly from this one, but recovered. The eighth case occurred in November, in the practice of Midwife D, (an untrained Midwife), and was fatal. The ninth case occurred in November, in the practice of Midwife A, (just before her removal from the Roll), and recovered.

Erysipelas.—Sixteen cases were notified, with 1 death, that of a child 2 months old.

Phthisis caused 5 deaths, a rate of 0.5. This is only half the average. The average for the 11 years 1890 to 1900 was 12; that for the 7 years 1901 to 1907 is 6.

Other Tubercular Diseases.—No death is ascribed to any other tubercular disease.

Cancer caused 11 deaths, a rate of 1.0. In 9 cases the digestive tract was affected; in 1 the breast; in 1 the pelvis. Ages 35 to 80 years; average 59 years.

Respiratory Diseases.—Twenty-one deaths, rate 2.0. All but 5 occurred either in young children or in aged persons.

Alcoholism caused 1 death; male, 44 years.

Diseases of Parturition caused 2 deaths; female, 44 years, hæmorrhage; female, 29 years, convulsions.

Heart Diseases caused 22 deaths, a rate of 2.1.

Enteric Fever caused 1 case, imported. The patient in hospital $9\frac{1}{2}$ weeks, and recovered.

Rheumatic Fever caused 3 deaths; two males, 15 and 24 years; and 1 female, 29 years.

Influenza caused 1 death, in January.

Isolation Hospital.—An excellent hospital, as noted in the last Annual Report, was opened by the Northwich Joint Hospital Board at Davenham on October 1st, 1905. Forty-two cases were removed to the hospital, which therefore proved of incalculable value, ridding the District of many centres

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of infection. In fact, had it not been for this, there might have been a scarlet fever epidemic, rivalling those of 1893, 1896, and 1900. Twelve cases of diphtheria, 29 of scarlet fever, and 1 of enteric fever were removed. Three of the diphtheria cases proved fatal. The probable cause of death was the extraordinary delay in seeking medical assistance. The children were so seriously ill when admitted, that hospital treatment was too late to save them. One died on the second day, 1 on the fourth, and 1 on the eighth, after admission.

Systematic Inspection.—Mr. Hickson, the Inspector, has attended fully to the systematic inspection of the District, and has from time to time been accompanied by the Medical Officer of Health.

Inspector of Nuisances.—Mr. Thomas Hickson, whose appointment was made to take effect from January 1st, 1906, obtained (after examination) the Certificate of the Royal Sanitary Institute.

His summary of the results of his inspections, during 1907, is as follows:—

			Inspections and Observations made.	Formal Notices by Authority.	Nuisances Abated after Notice.
Dwelling-houses and Schools--					
Foul Conditions	...	...	32	2	2
Structural Defects	...	...	10	10	...
Overcrowding	...	...	16	4	3
Unfit for Habitation	...	...	10	4	...
Lodging-houses	.	...	4	1	1
Dairies and Milkshops	...	...	84	...	...
Cowsheds	...	...	140	...	...
Bakehouses	...	...	84	...	...
Slaughter-houses	...	...	189	...	...
Canal Boats	...	...	25	...	...
Ashpits and Privies	..	...	760	52	40
Deposits of Refuse and Manure			160	14	14
Water-closets	...	...	220	...	...
House Drainage—					
Defective Traps	157	2	2
No Disconnection
Other Faults	58	1	1

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			Inspections and Observations made.	Formal Notices by Authority.	Nuisances Abated after Notice.
Water-supply	...	...	5	..	...
Pigsties	...	...	70	...	...
Animals improperly kept	...	...	2	1	1
Offensive Trades	...	..	12	...	...
Smoke Nuisances	...	..	8	...	...
Other Nuisances	...	..	...	...	...

Thus there were 2,066 inspections made, and 91 formal notices served, most of which were complied with by the end of the year.

Disinfection.—Fifty lots of infectious bedding, clothing, etc., were disinfected or destroyed, after cases of infectious disease, during the year.

Disinfection of premises.—The Inspector is provided with an equifex sprayer, with which 70 houses were disinfected. Nine schools in the District have been twice disinfected, and 6 schools disinfected after infectious disease.

According to an excellent plan adopted in this District, advantage is taken of the ordinary holidays to disinfect all schools twice in the year.

Refuse Removal.—Ashpits are emptied monthly, and privy middens 3 times a year. Deposits of refuse and manure are cleared away every month to a place provided for the purpose by the Council.

Peat Pails.—The number in use in the District is 324, being an increase of 12 for the year. The pails are changed and cleansed once each week, the work of removal being carried out by the Council's employees in covered waggons. The contents are distributed on land approved by the Council.

Ashpits.—The whole of the ashpits in the District are scavenged at the Council's expense, 12 times each year. The deposits are taken on to waste ground owned by the Council, or to other suitable places, which from time to time they may approve. Twelve new ashpits have been built, and 8 portable ashbins have been fixed during the year.

Privy Middens.—The number of privy middens in the District is 1,445, 12 having on formal notice been converted

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into pail-closets, and 13 to water-closets. The Council continue to urge the adoption of the water carriage system where house-drains are connected with the public sewers.

Overcrowding.—Twelve cases of overcrowding have been dealt with during the year, and the nuisance abated in every instance, except one, which is still under observation.

House to House Inspection.—This important branch of duty has received special and careful attention when temporary freedom from other matters has made it possible; 140 houses having been so inspected, observations made, and the results reported to the Council. Among other matters discovered and dealt with, in consequence of these visits, were—4 cottages without yards, back premises, or facilities for through ventilation; defective privies, or leaky, or improperly covered cesspools at 35 cottages; yards unpaved or in insanitary condition.

Insanitary Property.—Four cottages in High Street have been pulled down; 4 cottages in Station Road are closed, and 2 pulled down; 6 cottages in Chapel Street are to be improved; 4 cottages at Grange Hill are under consideration by the owners, who have had informal notice.

Water-supply.—This is exceptionally good, both in quantity and quality.

Dairies and Cowsheds.—All dairies and cowsheds have been inspected once, and in most cases twice, during the year. Where defects or infringements of the Regulations have occurred, steps have been taken to have the defects remedied; reports being submitted to the Council on matters requiring special attention. 140 Notices to cleanse and limewash premises, etc., have been served on the owners, or occupiers, and this work, with few exceptions, has been satisfactorily carried out.

Slaughter-houses.—There are 22 slaughter-houses now in use in the District, 21 being licensed, and 1 being registered. All have been regularly inspected and all defects or nuisances discovered remedied on formal notice being served. All licenses have been renewed by the Council, on application being made by the owners during the year. One application for a license to fresh premises has been refused.

Common Lodging-houses.—There are still only 2 in the District, both being in Over. The premises have been frequently inspected, and found clean and well conducted.

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No breach of the Regulations has occurred. Formal notice has been served on one occupier in Over, for using unregistered premises as a common lodging-house; the nuisance was, however, abated without further measures being necessary.

Factories and Workshops.—There are 30 factories and 143 workshops and workplaces on the Register. They have been visited, and inspections made, as frequently as opportunity has occurred. The conditions as to cleanliness, ventilation, sanitary convenience, and other matters (especially as regard the Factories) are generally satisfactory. At 4 workshops more efficient means of ventilation has been secured. At 2 workshops, closet accommodation has been provided, where none previously existed, and at 1 factory additional sanitary conveniences are being provided, by the erection of 3 extra pail closets.

Home Work.—Messrs. Crook & Son, Ltd., Clothing Factory, Siddorn Street, is still the only factory in the District where home work is given out. Two lists have been received from this firm, 1 in February containing 7 names, the other in August containing 9 names. The Medical Officer of Health regularly visited and made careful inspections of the homes where the work is carried on, and found them to be clean, wholesome, and satisfactory. No cases of infectious disease have been notified in any of the homes, and no overcrowding was discovered.

Sewage Treatment.—The filtration beds continue to work efficiently and inexpensively. All the beds were raised during 1902, and one additional bed was made.

Vans used as Dwellings.—Twenty-seven of these vans have been inspected during the year; no cases of overcrowding or other nuisances were discovered, and no cases of infectious disease occurred.

Canal Boats.—There are only 8 boats on the register, all being of the river class, viz.:—steamers and barges. 25 Inspections have been made. The condition of the boats, generally, is fairly good. The defects and infringements noted were of minor importance, and compliance with the Regulations has been secured without difficulty. There are a large number of boats of this class plying on the River Weaver, but as most of these are registered under the Merchants' Shipping Acts, they do not come under the direct supervision of the Council.

YEARDSLEY-CUM-WHALEY

Urban District.

Medical Officer of Health—DR. JOSEPH NALL, till his decease on January 9th, 1908.

Population at Census, 1901—1,487.

Estimated Population in middle of 1907—1,554.

Area in acres—1,323.

Birth-rate per 1,000 living—20.5.

Death-rate per 1,000 living—14.1.

Death-rate from seven principal Zymotic Diseases—1.9.

Deaths under one year to 1,000 births—187.

Dr. T. A. WELCH was appointed Medical Officer of Health for Yeardsley-cum-Whaley Urban District on February 3rd, 1908, and he has kindly prepared the Annual Report for 1907.

The population of this Urban District was 1,235 at the Census in 1891, and 1,487 at the Census in 1901. The increase of the population during the decennium, 1891-1901, was thus 252, that is 20.4 per cent. The estimate of the population made for the middle of 1907 assumes that the population has been still increasing, but not at the same rate.

The District includes Bridgemont and Stoneheads.

During 1907 the number of births registered was 32, and the number of deaths registered, including the death of one resident who died beyond the District, was 23. The birth-rate is 3.9 below the average in the 10 years 1897-1906, and the death-rate is 0.6 higher than in the same 10 years. The causes of death certified include 1 from measles, 1 from croup, 2 from diarrhœa, 1 from tubercular disease, 3 from cancer, 2 from premature birth, 2 from heart diseases, and 3 from suicide. Six of those who died had not completed their first year. This was equal to an infantile death-rate of 18 per 1,000 births.

Infectious Disease.—There were only 4 cases of infectious disease notified, viz.:—3 erysipelas, and 1 diphtheria. The cases of erysipelas could only be traced to cold, and the case of diphtheria was supposed to have arisen from the defective state of a slopstone gully. Full instructions were given as to disinfection in each case.

Measles.—There was an epidemic of measles early in the year, which necessitated the closing of the Day Schools in the District. Only one case ended fatally.

Yeardsley-cum-Whaley Urban District.

Isolation Hospital.—The hospital belonging to the Hyde Corporation can be made use of, but it was not necessary during 1907 to remove any infectious case there.

Water=supply.—In the Report of 1898, the Medical Officer of Health stated that it was certainly most desirable that a proper water-supply should be available, and that no time should be lost in procuring it. During 1899, the District Council entered into a provisional agreement with Col. Cotton-Jodrell for the acquisition of his water rights at Stoneheads and Diglee. The District Council also made application to the Local Government Board for sanction to borrow £7,000, to carry out an efficient scheme for furnishing the District with water. An inquiry was held by an Inspector of the Local Government Board in September, 1900, and in the summer of 1901 the Board sanctioned the borrowing of the sum named. Contracts were forthwith let, and the necessary work was proceeded with. During 1902 the public water-supply was completed, and a large number of houses have this water. However, there are still several houses without good water. The whole District should be supplied at an early date.

During 1907 the water-supply of the District remained good, and the report of the County Analyst is very satisfactory.

The water at the “Well” at Naylor’s Cottages and “Jackson’s Well,” has been considered of doubtful purity. Recently, samples have been taken and sent for analysis. The report which has just come to hand is as follows:—

NAYLOR’S COTTAGES WELL.—“This is a very pure water, well fitted for use for drinking and other domestic purposes. It is somewhat hard, but the hardness may be considerably reduced by boiling.”

JACKSON’S WELL.—“This is a very pure water and well adapted for use as drinking water.”

Signed, ROBERT WRIGHT, F.C.S.

On the advice of the late Medical Officer the flow of water into the reservoir has been altered, so that a continuous current of the whole bulk of water in the reservoir is maintained.

Dairies, Cowsheds and Milkshops have been inspected, and during the year great improvements have been made, as regards air-space, ventilation, and drains. Samples of milk have been taken several times by the County Authorities, but no complaint has been made.

Yeardsley-cum-Whaley Urban District.

Slaughter-houses.—The two in the District have been periodically inspected, and appear to conform to the bye-laws regulating such buildings. They were registered in 1906.

Offensive Trades.—Tripe boiling is carried on at one house, and size-making at another. The occupiers of both premises conform to the regulations.

The chief occupations of the District are calico printing, cotton weaving, and colliery work.

Housing.—The house accommodation for the working-classes is ample, and the erection of new houses is still proceeding.

Factory and Workshop Act, 1901.—All the factories and workshops have been inspected from time to time. There has been one case only—that of insufficient sanitary accommodation—which required attention, and this was at once remedied.

Systematic Inspection of the district is made from time to time by the Medical Officer of Health and Inspector. Thus defects are discovered, and improvements are made.

Nuisance Abatement.—The most common cause of nuisance is the insanitary state of the closets and ashpits requiring to be emptied, defective house drains, untrapped drains, defective rain-pipes and gutters, windows that will not open, and animals so kept as to be a nuisance. As a rule the defects pointed out have been remedied. Several new closets and ashpits have been made. During the year 26 notices to abate nuisance have been issued, and most of them have been complied with.

Drainage.—New drains have been laid in Furness Vale and Hockerley Lane, and many old drains have been replaced by new ones.

Sewerage and Sewage Disposal.—On September 25th the District Council, with the Chapel-en-le-Frith District Council, and the Macclesfield Rural District Council met to discuss a joint scheme for the treatment of sewage. Messrs. Swan & Brady are preparing a Report on the matter.

Canal Boats.—Four boats have been inspected. All were found to comply with the regulations.

BUCKLOW

Rural District.

Medical Officer of Health—DR. T. W. H. GARSTANG.

Population at Census, 1901—19,890.

Estimated Population in middle of 1907—22,000.

Area in acres—57,651.

Birth-rate per 1,000 living—18.5.

Death-rate per 1,000 living—11.3.

Death-rate from seven principal Zymotic Diseases—0.27.

Deaths under one year to 1,000 births—81.

The population of this Rural District was 19,890 at the Census in 1901, and the population of the corresponding area was 17,793 at the Census in 1891. The increase of the population during the decennium 1891–1901 was thus 2,097, that is, 11.7 per cent. The estimate of the population made for the middle of 1907 assumes that the population since the date of the Census continued to increase at about the same rate.

The number of births registered in this District in 1906 was 474, and the number of deaths registered in this District in 1906 was 255. From the total of registered deaths must be deducted the deaths of those not belonging to the District, and to the total must be added the deaths of residents registered elsewhere. The number of deaths belonging to the District was thus 261. The birth-rate is 0.5 below the average in 1896–1905, and the death-rate is 1.1 below the average of the same ten years.

For registration purposes, the District has long been divided into four sub-districts. These are as follows :—

1. Altrincham, having an area of 11,854 acres, includes Baguley, Timperley, Ringway, Ashley, and Dunham Massey.
2. Lymm, having an area of 14,498 acres, includes Carrington, Partington, Bollington, Warburton, High Legh, Agden, Millington, and Aston-by-Budworth.
3. Knutsford, having an area of 20,811 acres, includes Tabley (Superior and Inferior), Mere, Rostherne, Tatton, Marthall, Peover (Superior and Inferior), Ollerton, Toft, Bexton, Plumbley and Pickmere.
4. Wilmslow, having an area of 10,488 acres, includes Styal, Mobberley, Northenden and Northen Etchells.

A fifth sub-district has quite recently been made. The Township of Baguley (taken from Altrincham sub-district), Carrington (taken from Lymm sub-district), and Northenden (taken

Bucklow Rural District.

from Wilmslow sub-district), make the new Sale sub-district as far as the Rural District is concerned.

In 1907 the birth-rates of these 5 sub-districts were respectively 20.4, 15.7, 17.0, 12.8, and 23.3. The death-rates of these 5 sub-districts were respectively 8.9, 14, 10.9, 10.6, and 14.7.

Infantile Mortality.—The number of those who died before completing their first year was 33. The causes of death registered were as follows:—2 diarrhœa, 2 whooping-cough, 1 diphtheria, 5 premature birth, 2 bronchitis, 4 pneumonia, 4 debility, 2 tubercular meningitis, and 12 other causes. This is equal to a rate of 81 per 1000 births.

Illegitimate Children.—Only 9 of those born in 1907 were illegitimate; of these, 2 died. The illegitimate birth-rate is therefore 2.2 per cent., and the death-rate is 22 per cent. The proportion of legitimate infants who died during 1907 was only 6 per cent.

Coroner's Inquests.—Seventeen deaths formed the subject of official inquiries, but 6 of these were of persons not belonging to the District. Particulars of the 11 inquests are given in tabular form.

DATE	SEX	AGE	WHERE HELD.	WHERE BELONGED TO	VERDICT.
July 31	F	56	Timperley	Timperley	Heart disease.
Apr. 25	M	19	High Legh	High Legh	Injured by cart falling on him
May 5	F	29	Partington	Partington	Pneumonia following immersion in Ship Canal
June 12	M	55	High Legh	High Legh	Found dead in road, syncope
Nov. 8	M	2 hrs.	Millington	Millington	Premature birth
May 31	M	49	Tabley Superior	Tabley Superior	Apoplexy
June 19	M	2 mos.	Pickmere	Pickmere	Found dead in bed, marasmus
Sep. 14	M	62	Workhouse	Ollerton	Fall from Haystack
May 17	F	96	Styal	Styal	Broken thigh from fall
Dec. 18	M	3 mos.	Northen Etchells	Northen Etchells	Convulsions.
Aug. 12	M	5	Northenden	Northenden	Accidently drowned in river

There was one uncertificated death during 1907.

Bucklow Rural District.

Cases of Infectious Disease notified.—Seventy-two cases of infectious disease were notified during 1907, viz.:—9 diphtheria, 5 erysipelas, 53 scarlet fever, 4 enteric fever, and 1 puerperal fever. Of these 43 were removed to hospital, namely, 38 scarlet fever, 3 diphtheria, and 2 enteric fever.

Zymotic Mortality.—There were 6 deaths from the 7 principal zymotic diseases, viz.:—1 measles, 1 scarlet fever, 2 whooping cough, and 2 diarrhœa.

Prevention of Infectious Disease.—The usual precautions are taken in all known cases of infectious disease to prevent its spread, as detailed in previous Annual Reports.

Phthisis was the registered cause of 13 deaths, a number equal to 0.59 per 1000 living. The deaths occurred as follows:—5 in Northenden, 4 in Timperley, 1 each in Ringway, Partington, Mere, and Plumbley. 10 males, 3 females. Ages from 26 to 74 years; average 40 years.

Other Tubercular Diseases account for 6 deaths, thus the whole tubercular death-rate was equal to 0.86 per 1000 living.

Cancer caused 14 deaths, a very much lower number than last year, or the year before. There were 4 in Timperley, 3 in Northenden, 1 each in Dunham Massey, Ringway, Warburton, High Legh, Partington, Toft and Styal. 4 males, 10 females. Ages from 24 to 74 years, average 54 years. In 9 cases some part of the alimentary canal was affected; in 3 cases the breast; in 2 the larynx and thyroid gland respectively.

Diseases of the Respiratory Organs caused 55 deaths; this is above the average.

Alcoholism.—Three deaths were ascribed to alcoholism, 1 at Toft, 1 at Ollerton, and 1 at Mobberley.

Heart Diseases caused 32 deaths; this is equal to 1.45 per 1000 living.

Accidents were the cause of 4 deaths.

Anthrax.—An occasional case occurs, and is dealt with by the County Police. Cases occurring in human beings, (as also hydrophobia and glanders), are now ordered to be reported by the Medical Officer of Health to the Clerk to the County Council.

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Isolation Hospitals.—Cases of enteric fever now go to Monsall Hospital; diphtheria and scarlet fever to Baguley Sanatorium. The death-rate among scarlet fever cases in the latter institution is only 0.7, which clearly demonstrates the gain to the patient, as well as to the community from isolation in Hospital. 43 cases were sent into hospital, out of 72 notified, or 60 per cent. This is the highest proportion yet attained.

Since removal to hospital was commenced in 1898, the numbers have been—

Year.	Notifications.	Removals.	Percentage.
1898	46	5	10
1899	106	16	15
1900	96	42	43
1901	158	50	31
1902	102	27	27
1903	97	57	59
1904	117	63	54
1905	108	43	40
1906	106	51	48
1907	72	43	60

Value of Hospital Treatment. — Certain Medical Officers of Health are now throwing doubt upon the value of removal to hospital as a means of checking an epidemic. Without any intention of joining the controversy, and without any wish to criticise opinions based upon results observed in large towns, the Medical Officer of Health of Bucklow Rural District feels it his duty to record, without hesitation, his firm opinion that in this District prompt removal to hospital is the only effectual means whereby he can record year after year “no epidemic” in spite of the constant occurrence of individual cases, scattered over a wide area, and representing the introduction of infection so many times, and from so many independent sources.

Vaccination.—As no case of small-pox occurred, the next matter to notice is vaccination. The Medical Officer of Health produces the figures for the Union for a period of nine years, 1897-1906 inclusive. This records the vaccination for the Rural District of Bucklow and the Urban Districts of Altrincham, Bowdon, Hale, Sale, Ashton-upon-Mersey, Lymm, Knutsford, and Wilmslow. The tabular statement is given as follows:—

Bucklow Rural District.

1906.	Births.	Successfully Vaccinated	Insusceptible.	Had Small-pox.	Died Unvaccinated.	Postponed on Certificate.	Removed and Traced.	Lost.	Number Remaining.	Conscientious Objections.
Altrincham ...	417	374	3	—	17	6	4	4	—	9
„ ...	395	343	8	—	27	6	1	4	—	6
Lymm ...	95	84	—	—	9	—	—	—	—	2
„ ...	78	71	1	—	4	1	1	—	—	—
Knutsford ...	111	96	1	—	5	8	—	1	—	—
„ ...	98	92	—	—	5	—	—	1	—	—
Wilmslow ...	109	81	—	—	8	14	3	—	—	3
„ ...	117	90	3	—	7	10	1	1	—	5
Sale ...	310	270	1	—	26	5	2	2	1	3
„ ...	293	256	2	—	25	5	1	2	—	2
Totals ...	2023	1757	19	—	133	55	13	15	1	30
1896 to 1905 inclusive...	19044	16318	168	—	1585	531	94	179	16	158
Grand Totals...	21067	18075	187	—	1718	586	107	194	17	188

In 1906, out of 1,890 surviving children, 1,757 are known to have been vaccinated; or 93.0 per cent.; whilst, if cases medically postponed, and those removed and traced be assumed to have been ultimately vaccinated in the same proportion, among the survivors, the percentage vaccinated of the whole, is 96.3. The similar rates for the whole 11 years, combined, are 93.4 and 97.0.

Measles.—Several small localised outbreaks occurred, and various schools were closed for short periods. One death occurred in High Legh at the end of February.

Scarlet Fever.—One death occurred in the Sanatorium in June, the child belonged to Northenden. Fifty-three cases were notified, and 38 were sent to the Sanatorium. As the numbers are so small, the largest being 9 (for Dunham Massey), it is clear that there was no epidemic.

Diphtheria.—The number of cases notified fell to 9, of which 3 were removed to hospital. No deaths. This is the best year since 1900.

Bucklow Rural District.

Diagnosis of Diphtheria.—Bacteriological examination of morbid products from the patient is available in all cases.

Diphtheria Antitoxin.—In accordance with a suggestion from the County Council a supply of antitoxin is now kept at the Inspector's Office for the convenience of Practitioners who do not store it. It will be issued gratuitously in suitable cases, in others at cost price.

Enteric Fever.—Only 4 cases notified, of which 2 were removed to hospital. No deaths.

Influenza.—9 deaths ; rate 0.4.

Diarrhœa.—In 1907 only two deaths were attributed to diarrhœa ; these occurred in September and November.

Enteritis.—Only 2 deaths, one being a woman 35 years of age, the other a child of 18 months.

Puerperal Fever.—1 notification ; no death.

Erysipelas.—5 notifications ; no death.

Disinfection.—No apparatus is yet provided for disinfecting bedding, etc., by steam. For the disinfection of premises the formic-sulphugators of the Sanitas Company have been used. The Inspector speaks highly of them. It is claimed that they generate formic aldehyde, sulphurous acid, gas and steam. They are portable, and lighted like a sulphur candle. The Authority have an apparatus for spraying with perchloride of mercury solution, but it is too heavy to carry about for any distance. Householders are recommended to use chlorinated lime. However, the District Council have no officer or servant to undertake the duty of disinfection, and carry it out thoroughly. The work falls upon the already overburdened shoulders of the Inspector of Nuisances, and he is naturally compelled to adopt a method which is easy and speedy in application, without too much regard to its claim to efficiency.

Systematic Inspection.—The Medical Officer of Health has done his best to comply with the official regulations, having visited every corner of the District during the year, and many

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places several times. These visits have, as a rule, been paid in company with either Mr. McKenzie, or Mr. Metcalfe. Visits have also been made every day in various townships by these two officers in the performance of their respective duties.

Sewage Disposal.—There are three Sewage Works belonging to the District, viz.:—At Dunham Massey, Timperley, and Northenden. They consist of tanks, filters, and land irrigation. Large houses of the best class, on Dunham Hill, drain into three separate systems of sewers under three independent authorities, according to the run of the ancient township boundaries.

Partington.—It is proposed to make a small filter for the sewage of Lock Lane and neighbourhood, but it has not yet been begun.

Timperley.—This is an old outfall. The main sewer is a long one, with a faulty gradient, liable to silting.

Northenden.—This is a comparatively new outfall, and seems to be fairly efficient. A scheme is under consideration for its enlargement.

Sewage Disposal.—The old outfall at Oldfield, which for very many years has served an area in Dunham Massey, lying roughly north-west of Bowdon and south-west of Altrincham, and contiguous to both, was discontinued on December 15th, 1907, when the sewer was connected to the new main out-fall sewer, which has been so long in course of construction. This brings into use the new tanks and irrigation-land at Woodhouses, which have been ready and waiting for several years. The main sewer is now almost completed, less than 100 yards remaining to be laid. In consequence of the depth of the cutting, the presence of quick-sand, &c., the work is proving difficult up to the last. Still, it is hoped to complete it by the middle of March; then the house-drains can be connected in the Sinderland Road area, and a long-standing grievance will be remedied. The Timperley and Northenden outfalls are being worked in the usual manner, with small extensions and improvements from time to time.

In a Rural District with many Municipal and Urban neighbours, a village here, or a hamlet there, may grow faster than the average; and it is not difficult to foresee that extension of the sewage-works will probably be required before many more years have passed.

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Rivers Pollution.—Many inspections were made of the rivers in the District, and seven samples of river water submitted for analysis.

These were found to be fairly satisfactory, the worst of the seven being from Timperley Brook, a little below the Tannery.

During the year one complaint was received on the 3rd October, from the Mersey and Irwell Joint Committee, with regard to the nature of effluent from Sewage Works at Northenden. With a view to meeting this defect the Council have decided to put down a new tank and 2 additional filter beds, with an area of 270 square yards. With this increased accommodation, it is hoped the difficulty that was experienced through the growth of the village will be met.

Public Health Acts (Amendment) Act, 1890.—This Act has been adopted.

The Surveyor (Mr. McKenzie) and the Inspector (Mr. Metcalfe) furnish information as to matters coming under their supervision.

Building Plans.—During the year 114 sets of Plans have been submitted to the Council for their approval, and 5 letters with respect to building matters have been received and dealt with.

Of the Plans submitted, approval was granted to 54 sets on their first appearance; 55 sets were returned for amendments and subsequently passed, whilst 5 sets have been returned and not again submitted.

The various buildings, of which Plans were approved, are as follows:—

Alterations and Additions	...	...	...	53
Cottages, Dwelling-houses, &c.	...	...	...	185
Churchyard Extension	...	...	...	1
Club House	...	...	...	1
Conversion of Old Buildings into Cottages	4
Drainage Plans	4
Factory	1
Farm Buildings	16

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Garages	5
Hospital	1
Irishmen's House	2
Laundry	1
Road Widenings, &c....	1
Stables (other than Farm Buildings)	4
Temporary Buildings...	...	...	...	...	...	2
Wheelwrights' Shops...	...	...	...	...	...	2

The Committee has also during the year paid 5 special visits for the purpose of inspecting proposed sites.

During the year 24 certificates of completion were granted for 73 houses which are now occupied.

House-to-House Inspection.—This work has been continued, and 91 more houses were inspected. The usual steps were taken, where defects were discovered, to have the same put right. This brings the total number of houses inspected to about 390.

House Drainage.—Several houses have been re-drained, in each case new fittings were provided, and other structural alterations carried out. The water test has been applied to all drains before being passed. 56 connections to main sewers have been inspected and found in order.

All new drains throughout the District have been water tested, and the 130 sets thus inspected were found satisfactory.

Water certificates were granted for 68 houses under the provisions of Section 6 of the Public Health Water Act, 1878. 64 houses were supplied from public mains, 2 from wells (water analysed), and 2 from rain water tanks.

Smoke Nuisance.—Several complaints were received during the year. One from Carrington, and the rest from Dunham Massey with regard to the chimney of St. Anne's Consumption Hospital. Both are under observation.

Disinfection.—All houses and clothing where infectious diseases occurred were disinfected by "Konoform" or "Formalin," and the rooms afterwards stripped and limewashed. In some cases all clothing was removed for steam disinfection. Steam disinfection will be insisted upon in 1908.

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Legal Proceedings.—Two persons were prosecuted during the year and convicted.

Thomas Davies, Mobberley. Fined ten shillings and costs for using premises as a slaughter-house without being licensed.

Henry Johnson Longden. Fined one shilling and costs for using premises as a slaughter-house without being licensed.

Public Street Lighting at Timperley and Northenden.—The public roads of these Townships have been lighted with gas lamps under loans sanctioned by the Local Government Board.

Scavenging and Removal of Refuse.—Dunham Massey, Timperley, and Northenden.—The scavenging in Northenden Township, during the first four months of the year, was carried out by the Council's staff of workmen. The Council then decided that the work should be carried out by contract, and the Council's workmen should devote their time to the Townships of Dunham Massey and Timperley.

The following is a return of the work done in each township during the year :—

		Dunham.	Timperley.	Northenden.
Houses Scavenged	...	1809	4906	4617
Ashpits Emptied	...	825	1286	1315
Dustbins Emptied	...	364	2004	2248
Pails Emptied	...	399	2053	388
Loads Removed	...	684	864	714

173 loads of manure were sold from Dunham Massey and 282 from Timperley.

Dairies and Cowsheds.—This work has been carried out on similar lines to previous years, except that special visits were made during the winter months, when the cows were lying in, to several of the farms, in order to see the conditions existing whilst milking was going on. Many of the farmers evidently carry on the business in a cleanly manner, whilst others, judging from the amount of dirt about, appeared to have little idea that cleanliness was desirable. These defaulters have been informed that uncleanness or other departures from regulations will not be tolerated, and in every case discovered in the future the Council will be asked to take proceedings against them.

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With regard to the structural defects discovered, the usual notices were served, and many improvements carried out. There were five new cowsheds built.

There were 516 premises on the register at the beginning of the year and 513 at the close; the latter number was made up as follows :—Cow-keepers (not milk-sellers), 292; purveyors of milk and cow-keepers, 215; purveyors of milk (not cow-keepers), 6. There was one application for registration during the year, and 1,056 notices were served (which include the limewashing notices sent out in May and October). As to structural alterations, gradual improvement can be reported, but no improvement can be reported as to cleanliness until late on in the year. It is proposed to send out a special circular letter to all milk-sellers dealing with general cleanliness of cowsheds, cows, milkers, and all milk-vessels used.

Tuberculous Cows.—Three cases were notified by the Medical Officer of Health, Manchester; one was in Mobberley, one in Northen Etchells, and one in Tabley Superior.

The cows were all slaughtered under the supervision of the Manchester Officials and the Medical Officer, and the diseased carcasses disposed of, so that none could be used for food.

Food Inspection.—As will be seen by the table many visits were made to shops where meat, fish, fruit, etc., was exposed for sale. There was one seizure of unsound meat at Mobberley and the owner was proceeded against.

In one case at, Northenden, the Medical Officer was telegraphed for and requested to inspect an animal which had just been slaughtered; the butcher was sentenced to three months' imprisonment for having diseased meat on his premises and intended for human food.

Slaughter-houses.—There are nine licensed slaughter-houses in the District. Several applications have been made for licenses since Urban Powers were granted by the Local Government Board to the whole of the District.

A special report will be made to the Council as soon as the slaughter-house bye-laws are made applicable to the whole District. Two persons were proceeded against and fined, for using premises without being licensed.

Bucklow Rural District.

The Factory and Workshop Act.—The District Council has, by formal resolution, appointed Mr. McKenzie to be Inspector under this Act.

Inspections under the above Act have been carried out during 1907.

The register shows at the close of the year 32 factories, 127 workshops, and 131 workplaces within the District.

174 inspections were made during the year, and the following defects were found and notices served to remedy the same :—

Want of Cleanliness, 33.

Defective Floor Drainage, 1.

There are only 2 out-workers in the District, one works in Altrincham and the other in Manchester.

There are no underground bakehouses within the District.

Canal Boats.—Mr. McKenzie, District Surveyor and Inspector of Canal Boats, reports that during 1907, 34 visits have been paid, 58 boats were examined, and 4 were found in an unsatisfactory condition, viz. :

Dirty Cabins, 2.

Non-removal of Foul Bilge Water, 2.

Notices were served on the above as being infringements of the Canal Boats Acts, and in each case the counterfoil has been returned, indicating that attention has been given, and the defects remedied.

The boats were registered to carry 214 persons, but only 108 were in occupation. These were made up as follows :—74 men, 27 women, and 7 children.

Eleven of the boats were engaged in the manure traffic, and bilge water was regularly removed in compliance with regulations.

No case of infectious disease has been reported or encountered during the year, and the general condition of the boats was found satisfactory.

CHESTER

Rural District.

Medical Officer of Health —DR. G. A. KENYON.

Population at Census, 1901—10,989.

Estimated Population in middle of 1907—11,551.

Area in acres—35,517.

Birth-rate per 1,000 living—17.4.

Death-rate per 1,000 living—9.2.

Death-rate from seven principal Zymotic Diseases—0.4.

Deaths under one year to 1,000 births—89.

The population of Chester Rural District was 10,989 at the Census in 1901, and 10,824 in the corresponding area at the Census in 1891. The increase in the population during the decennium 1891-1901 was thus 165; that is 1.5 per cent. The increase in the population of this Rural District between the Census in 1891 and the Census in 1901 would have been much greater but for the exodus of 1,137 persons enumerated at Elton, Ince, Stanlow, and Great Stanney, who at the time of the Census in 1891, were engaged in the construction of the Manchester Ship Canal.

The Census population as above is inclusive of 1,112 persons enumerated in the County Asylum, situated in the Parish of Upton-by-Chester, and 32 persons enumerated in Tarvin Union Workhouse, situated in the Parish of Great Boughton. Excluding the populations of these two Institutions, the population of the Rural District at the Census in 1901 was 9,845. It is estimated that in the middle of the year 1907 this population was 11,551. There has been much building going on since the Census, and this estimate seems to be warranted. On it the birth-rate and death-rate have been calculated.

This Rural District has for registration purposes been divided into sub-districts, as follows :—

- 1.—Chester Castle, having an area of 10,960 acres, includes Christleton, Littleton, Great Boughton, Chester Castle, Marlston-with-Lache, Eccleston, Eaton, Poulton, Pulford, Dodleston, Lower Kinner-ton, and Claverton.
- 2.—Chester Cathedral, having an area of 24,557 acres, includes Blacon-cum-Crabhall, Bache, Newton-by-Chester, Wervin, Croughton, Moston, Upton-by-Chester, Lea-by-Backford, Mollington, Backford,

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Chorlton-by-Backford, Caughall, Hoole (part of), Mickle Trafford, Bridge Trafford, Picton, Thornton-le-Moors, Wimbolds Trafford, Dunham-on-the-Hill, Hapsford, Elton, Ince, Stanlow, Great Stanney, Little Stanney, Stoke, Capenhurst, Shotwick, Woodbank, Great Saughall, Little Saughall, and Shotwick Park.

In 1907 the number of births registered was 201, and the number of deaths registered (excluding 94, not belonging to the District, and including the deaths of 10 residents which occurred elsewhere) was 107. The birth-rate is about 1.9 below the average in the 10 years 1897-1906, and the death-rate is 1.0 below the average in the same ten years.

There were 5 deaths from the principal zymotic diseases, viz.: 1 whooping-cough, 1 diphtheria, and 3 diarrhoea. There were also 7 deaths from epidemic influenza, 2 from enteritis, 8 from phthisis, 1 from other tubercular disease, 10 from cancer, 4 from bronchitis, 5 from pneumonia, 1 from alcoholism, 5 from premature birth, 16 from heart diseases, 3 from accidents, and 1 from suicide.

Cases of Infectious Disease notified.—There were 76 cases of infectious disease notified, viz.: 40 diphtheria, 4 erysipelas, 24 scarlet fever, 7 enteric fever, and 1 puerperal fever.

Of these, 13 cases of diphtheria, 11 of scarlet fever, and 6 of enteric fever were removed to hospital.

Action taken to prevent spread of Infection.—All the houses where cases of infectious disease occurred were visited, disinfectants supplied as required, and measures taken to prevent the attendance at school of pupils from houses in which cases have arisen; insanitary conditions when discovered were removed, and cases which could not be isolated at home were promptly sent to hospital.

Diphtheria was much less prevalent than in former years; on the other hand, there were more cases of scarlet fever than usual. The outbreaks were kept well under control by prompt isolation, or removal to hospital. One death took place from diphtheria.

School Closure.—In one Township the school was closed by the Managers for two weeks as a precautionary measure against

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diphtheria; other schools have been closed by the Managers, on the Medical Officer's advice, for short periods, respectively on account of the prevalence of whooping-cough, scarlet fever, or diphtheria.

Inspection.—The Medical Officer of Health has visited the District from time to time, and besides investigating cases of infectious disease, has made general and special inspections. He has advised his Authority on many matters of detail in connection with these inspections.

Water-supply.—Part of the District is supplied from the Chester Waterworks, part from Wirral Waterworks, and part from the Wrexham Waterworks, while other parts have good well water. Elsewhere the water is unsuitable or deficient in quantity. Christleton, Newton, and Upton are supplied from the Chester Waterworks. The extension of the Chester water mains to Great Boughton has been accomplished by private enterprise. Great Saughall, Capenhurst, and part of Mollington are now supplied from Wirral Waterworks. Dodleston, Eaton, and neighbourhood are supplied from the Wrexham Waterworks.

The arrangement mentioned in the 1902 Annual Report, for the supply of Mollington from the Chester water-mains, has been carried out. Further extension is under consideration.

The District is traversed by a large conduit taking water from Vyrnwy to Wallasey, and a few houses in the District have been supplied therefrom. It may possibly become available for further supplies.

Sewerage.—After many years of negotiation and delay a contract has been let, during the past year, for the construction of the scheme of sewage for Bache, Newton and Upton, which provides also a means of outfall for the sewage of the Tarvin Road part of the Township of Great Boughton. This scheme has its outfall in the City of Chester, where it discharges the whole of the sewage into a sewer belonging to the City, and, by this means, the sewage will be conveyed to the Disposal Works of the City, which Authority undertakes the responsibility of disposal. The sewers in the Township of Upton are practically all laid, and the work is proceeding in the Township of Newton. It is expected that in a few months all the work will be complete. The sewerage of Great Saughall is at a standstill, as, up to the present, it has not been found possible to relieve the inconvenience to the farmer on whose land the sewer now discharges.

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Refuse Removal.—Throughout the District most of the houses have ashpit privies, the contents of which, at longer or shorter intervals, are emptied on land. The District Council have aimed at getting these privies modified, so as to approximate, as much as possible, to earth closets, and much has been done in this respect.

The Authority contract for the removal of ashpit refuse in the Township of Newton.

Inspector's Report.—The Inspector, Mr. Owen, continues to perform his duties with energy and ability. He makes a very complete report on the work done during the year 1907. He states that 41 complaints of nuisances were received during the year. At least 110 houses were inspected, and 48 re-inspected; 27 notices were issued, for sanitary amendment of premises; 58 houses disinfected, and, in 1 case, the contents of a sweet-shop, which had been exposed to infection, were destroyed, and compensation given. The drains of 24 houses were repaired, trapped, etc.; 5 privies repaired, 4 converted, 8 old houses were newly supplied with water, 1 case of overcrowding dealt with, and 14 accumulations of house refuse removed. At Christleton the village pump was repaired, and ditches were cleaned out. At the Girls' School ashpit closets were converted into W.C.'s. A dilapidated farm-house, unfit for habitation, was repaired, and supplied with water. A settling-tank near the Girls' School was filled up. At Elton a considerable length of new drain was laid, and a nuisance from an open ditch thereby remedied. At Upton a ditch was piped, to remedy a nuisance, and a piece of waste ground, "the Chemistry," kept in order. At Newton the brook was cleaned out, and back passages received attention. At Great Saughall the sewer outfall has been under consideration, and ditches cleaned. At Dunham the pump was repaired.

Dairies and Cowsheds to the number of about 135 have been under inspection during the year. At Trafford, Chorlton, and Backford the lighting, ventilation, and draining of cowsheds has been much improved.

Factory and Workshop Act.—Under the provisions of this Act the Inspector has from time to time inspected the premises of 3 brickmakers, 6 bakers, 4 builders, 3 blacksmiths, and 3 dressmakers. Generally, the premises were in good order, but in 1 case closet-accommodation had to be provided, and in 1 a want of cleanliness was remedied.

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Slaughter-houses.—There are now 3 in the District. All are under regular supervision.

Bye-laws.—The model bye-laws of the Local Government Board, with respect to new buildings, are in force throughout the District. Mr. Cecil Davies is Surveyor to examine plans submitted and see that the bye-laws are carried out.

New Houses.—55 new houses were built in 1907.

CONGLETON**Rural District.**

Medical Officer of Health—DR. C. H. WENTWORTH BENNETT.

Population at Census, 1901—12,220.

Estimated Population in middle of 1907—12,220.

Area in acres—40,512.

Birth-rate per 1000 living—28.8.

Death-rate per 1000 living—13.2.

Death-rate from seven principal Zymotic Diseases—1.1.

Deaths under one year to 1000 births—76.

The population of Congleton Rural District was 12,505 at the Census in 1891, and 12,220 at the Census in 1901. The decrease in the population during the decennium—1891–1901—was thus 285. The estimate of the population made for the middle of the year 1907 assumes that there has been no increase since the Census.

The whole District for registration purposes has been divided into three sub-districts. They are as follows :—

- 1.—Church Hulme, having an area of 14,910 acres, includes Goostrey-cum-Barnshaw, Blackden, Twemlow, Cranage, Leese, Cotton, Church Hulme, Swettenham, Kermincham, Brereton-cum-Smethwick and Davenport.
- 2.—Congleton, having an area of 7,885 acres, includes Somerford, Somerford Booths, Hulme Walfield, Newbold Astbury and Moreton-cum-Alcumlow.

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3.—Sandbach, having an area of 17,357 acres, includes Smallwood, Odd Rode, Church Lawton, Hassall, Betchton, Wheelock, Arclid, Bradwall, Tetton, Moston and Elton.

The birth-rates of these 3 sub-districts are respectively 23.3, 18.9 and 32.3. The death-rates of these 3 sub-districts are respectively 9.6, 13.5 and 13.3.

During 1907 the number of births registered in the whole District was 353, and the number of deaths registered in the whole District was 184. To the latter must be added 1 death of a resident which occurred elsewhere, and from these must be deducted the deaths of 23 persons not belonging to the District, who died in the workhouse at Arclid. The birth-rate is about 0.5 in excess of the average in 1897-1906, and the death-rate is 0.6 below the average in the same 10 years.

Cases of Infectious Disease notified.—There were 97 cases of infectious disease notified, viz.:—31 diphtheria, 22 erysipelas, 42 scarlet fever, 1 puerperal fever, and 1 anthrax. None of the cases were removed to hospital.

Scarlet Fever.—Of the 42 cases of scarlet fever 4 died, three of the children were related, and the fourth had been in communication with them. Some children were found at school in the peeling stage, and the schools were immediately closed.

Zymotic Mortality.—Besides the 4 deaths from scarlet fever, there were 3 from measles, 2 from whooping-cough, 3 from diphtheria, and 2 from diarrhoea, making 14 deaths in all from the principal zymotic diseases.

Measles was prevalent throughout the year.

Puerperal Fever.—One case occurred at Lawton, and the patient recovered. The Midwife who attended the case lived in the next District. The Medical Officer of Health for her District was communicated with, and she was instructed as to disinfection, etc., and suspended from practise for two months.

Anthrax.—A butcher at Hall Green was attacked by anthrax, treated at home, and recovered. All meat found on the premises was destroyed. The diagnosis was confirmed by microscopical examination at Birmingham Laboratory.

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Diphtheria.—There have been 31 cases notified ; most of them were in Odd Rode Township and the adjoining Township of Lawton. Two cases occurred at Somerford in March and two in October. At Goostrey four cases were notified.

School Closure.—The following schools were closed during the year, on the advice of the Medical Officer of Health :—Scholar Green, on account of an epidemic of measles and whooping-cough in February ; Rode Heath, in March, on account of measles and scarlet fever ; Goostrey, in November, for scarlet fever and diphtheria ; Lawton Park, in September, on account of scarlet fever. Immediately after closure the Inspector disinfected all these schools with formaline vapour, and had them scrubbed thoroughly with sanitas.

Tubercular Disease.—Nine deaths were due to phthisis, a number equal to 0.73 per 1,000 living. There were also 6 deaths due to other forms of tubercular disease.

Action taken to prevent Spread of Infection.—In all cases of infectious disease notified the premises are promptly inspected. Pamphlets are distributed giving full instructions as to isolation and disinfection, and disinfectants as required are supplied free of charge.

Bacteriological Diagnosis.—Arrangements have been made with Professor Delépine to have specimens from doubtful cases of diphtheria examined bacteriologically.

Antitoxin.—The District Council has given permission to the Medical Officer of Health to supply antitoxin free, for injection, as a preventive where families are unable to afford it.

Isolation Hospital Accommodation.—The Hospital at Arclid has been during 1903, 1904, 1905, 1906, and 1907, reserved for small-pox only. The new arrangement of having a permanent caretaker there is a great improvement. She keeps the hospital very clean, and is always ready to receive a case at a moment's notice.

Water-supply.—Holmes Chapel is in need of a good supply, but it is hoped that an arrangement may be come to with Middlewich, by which water may be supplied from the Tower at Sproston. Rode Heath and Thurlwood will be much benefited by

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the scheme at present before the District Council, when it is carried out, but progress is very slow. Except for these places, the District is well supplied with water.

It was mentioned in the Report for 1903 that water had been supplied to the Parish of Lawton by the North Stafford Company.

Cowsheds and Dairies.—These have been inspected throughout the District, and any alterations that were considered advisable have been carried out. They are now in a satisfactory condition. Want of ventilation has been the chief cause of complaint.

Factory and Workshops Act.—The Factories and Workshops have been inspected throughout the District, particular attention being paid to the sanitary arrangement and ventilation, and to a sufficient number of exits being provided in case of fire.

Slaughter-houses.—These are regularly inspected and have been found clean and well drained and ventilated. No diseased meat has been found on any premises licensed for slaughtering purposes.

Common Lodging-houses, of which there are six, have been kept under supervision and are in order.

Sewerage and Irrigation Grounds.—The new sewers at Elworth and Rode Heath, constructed in 1901, have proved of much benefit to the Districts they serve. The Medical Officer of Health several times inspected the irrigation grounds at Mow Cop and Mount Pleasant, and found them in good order and not offensive. Thurlwood requires sewerage, and ought to be attended to. Holmes Chapel is not satisfactory, complaints being received when the tanks have been cleaned out. Hall Green, a part of this village, requires sewerage, and this is being done.

Refuse Removal.—This scavenging has been better attended to than in previous years. It is supervised by the Inspector.

Inspector's Report.—The Inspector reports that he has systematically inspected the District throughout the year, read all the water meters quarterly, and can certify that there has been

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a good and regular supply through each meter ; he has reported 216 cases, made 3,187 visits, received and answered 570 letters, visited every case of infectious disease notified, as often as requisite, and supplied every case with a sufficient quantity of disinfectants, and, after recovery of the patient, has disinfected every house.

The Inspector disinfects the houses by fumigating with formaline and chlorine gas, and then getting the walls, furniture, &c., well scrubbed with carbolic or sanitas and plenty of soap and water.

Canal Boats.—Fifty-five boats have been inspected. One case of overcrowding and two minor offences were noted and dealt with. The general condition of the boats has been satisfactory. One case of diphtheria occurred on board the boat "Perseverance." The boat was detained, and disinfected.

DISLEY**Rural District.**

Medical Officer of Health—DR. C. J. BENNET.

Population at Census, 1901—2,827.

Estimated Population in middle of 1907—3,281.

Area in acres—2,466.

Birth-rate per 1,000 living—19.8.

Death-rate per 1,000 living—8.8.

Death-rate from seven principal Zymotic Diseases—0.

Deaths under one year to 1,000 births—46.

The population of Disley Rural District was 2,827 at the Census in 1901, and the population of the same area was 2,260 at the Census in 1891. The increase in the population during the decennium 1891-1901 was thus 567, that is slightly over 25 per cent. The estimate of the population made for the middle of 1907 was 3,281.

During 1907 the number of births registered was 65, and the number of deaths registered in the District was 29. The birth-rate is about 0.6 above the average in the District in the 10 years 1897-1906, and the death-rate is about 5 below the average in the same ten years.

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There were no deaths from zymotic disease, 2 deaths were from cancer, 6 from pneumonia, 1 from disease or accident of parturition, and 2 from heart diseases.

Cases of Infectious Disease notified.—24 cases of infectious disease were notified, viz. : 3 erysipelas, 20 scarlet fever, and 1 enteric fever.

The cases of scarlet fever apparently all arose from infection imported from an adjoining District, where the disease was prevalent, and it disappeared when the adjoining District became free from cases. The cases were not connected with each other.

The child who suffered from typhoid fever, had lost her mother, in Manchester, of the same disease, a few days before she was brought into the District, and she brought the infection with her.

The 1 case of erysipelas was the result of a chill. No case was removed to hospital, as no provision is made for isolation hospital accommodation.

The General Sanitary Condition of the District has been satisfactory in 1907. Much has been done to keep the village of Disley and its neighbourhood free from defective closets and ashpits and drains.

Water-supply.—The Medical Officer reports as follows :—

“The water supply to the inhabitants of Disley has been satisfactory during the year, owing, no doubt, to some extent, to the heavy rainfall during the summer months.

“It is with great satisfaction that I can inform you that the Stockport Corporation have (as a temporary matter pending the completion of the Kinder Waterworks) laid and opened a main, connecting the stream at Kinder with the Disley Reservoir, which will ensure in the future a more constant and abundant supply of water to the whole of this District ; the water mains having been extended to Furness Vale, where a wholesome supply was greatly needed.”

New Houses.—Seventeen houses have been erected, all of which are tenanted.

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Improved Building Bye-laws Needed.—The revision of the building bye-laws, so as to bring them into conformity with Model Bye-laws of the Local Government Board, has been under consideration, but the work is not completed. Improved bye-laws are much needed.

Urban Powers.—The District Council has obtained an order from the Local Government Board, under Section 297 of the Public Health Act, 1875, conferring Urban Powers which will enable them to make bye-laws with respect to (a) new streets, buildings, air-space, drainage, etc.; (b) prevention of nuisances, etc.; and (c) the regulation of slaughter-houses.

Public Health Acts (Amendment) Act, 1890.—The District Council have also adopted certain sections of this Act.

Dairies and Cowsheds.—The dairies and cowsheds have received attention. Three shippons have been repaired and otherwise put into a more healthy and sanitary condition. The Medical Officer considers that the air space per cow required in the District, viz., 800 feet, may prove in a severe winter far too great, and by thus reducing the warmth of the cow will considerably diminish the amount of the milk that would otherwise have been given.

The Factory and Workshop Act.—This Act is receiving attention. All the factories and workshops in the District are properly inspected. Their condition is satisfactory.

The closets and urinals have been repeatedly inspected during the year and found satisfactory.

Slaughter-houses are periodically inspected by the Inspector.

Sewerage and Drainage.—The sewerage of Disley, recently completed, works well, and the treatment at the outfall is effective. The property connections to the sewer should be pushed forward and completed as soon as possible; otherwise the pollution of the stream running through the village will continue.

Need of Sewerage at Furness Vale.—The Medical Officer of Health draws attention to the condition of Furness Vale,

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which is still without a proper system of sewerage and sewage disposal, and urges his authority to provide the same. He says :—“Yeardsley-cum Whaley Urban Council, and Chapel-en-le-Frith Rural Council are forming a joint scheme to sewer their Districts, the intention being to construct the outfall works within a reasonable distance of the Furness Vale end of this District, which has long required sewerage, in order to remove many nuisances detrimental to the health of its inhabitants. I advise you strongly not to miss this opportunity of removing and disposing of the sewage of Furness Vale at a comparatively moderate expense.”

The Medical Officer further recommends that now there is a constant and abundant water-supply throughout the District, as many as possible of the privies and closets where the pail is used should be converted into water-closets. In the emptying of the two former there is great danger to the health of those living near.

Inspector's Report.—The Inspector, Mr. H. Curtis, reports that during 1907 he has given full attention to his manifold duties. Refuse removal has been supervised in Disley and Furness Vale, 546 emptyings having been effected. The village fountain, which was very much in need of repair, has been overhauled and put in order. The Stockport Corporation's mains have been extended from Newtown to Furness Vale. Brooks and water-supplies have been inspected; 4 cases of sewage flowing into the public road have been abated, 12 defective closets and ashpits have been repaired, 6 defective drains repaired, and 2 blocks of houses re-drained. An open drain from a cess-pool has been piped for 85 yards, a smoke nuisance abated, 16 houses disinfected after scarlet fever, 2 water-supplies put in order, and 2 damp houses attended to.

MACCLESFIELD

Rural District.

Medical Officer of Health—DR. J. L. RUSHTON.

Population at Census, 1901—15,775.

Estimated Population in middle of 1907—16,689.

Area in acres—79,572.

Birth-rate per 1,000 living—19.8.

Death-rate per 1,000 living—14.9.

Death-rate from seven principal Zymotic Diseases—0.4.

Deaths under one year to 1,000 births—87.

The population of this Rural District was 15,775 at the Census in 1891, and the population of the corresponding area was 15,896 at the Census in 1901. The decrease in the population during the decennium, 1891-1901, was therefore 121, that is 0.76 per cent.

The whole District has, for registration purposes, been divided into six sub-districts. These are as follows :—

1. Alderley, having an area of 13,679 acres. It includes Birtles, Capesthorpe, Lower Withington, Old Withington, Chelford, Snelson, Nether Alderley, Over Alderley, Great Warford, and part of Chorley.
2. Bollington, having an area of 7,107 acres. It includes Tytherington, Pott Shrigley, Lyme Handley, and part of Hurdsfield.
3. Gawsworth, having an area of 17,983 acres. It includes Gawsworth, Bosley, North Rode, Marton, Siddington, Henbury-with-Pexall, and Eaton-by-Congleton.
4. Prestbury, having an area of 13,666 acres. It includes Prestbury, Poynton-with-Worth, Woodford, Newton, Adlington, Butley, Mottram St. Andrew, Fallibroome, and Upton.
5. Rainow, having an area of 14,274 acres. It includes Taxal, Kettleshulme, Rainow, and Macclesfield Forest.
6. Sutton, having an area of 12,953 acres. It includes Wildboarclough, Wincle, and part of Sutton.

The sub-divisions of Alderley, Bollington, Gawsworth and Prestbury are, speaking generally, devoted to agriculture and dairy work, while Rainow and Sutton show stone quarries and steep hill land used for grazing purposes.

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The number of births registered in the whole District was 331, and the number of deaths registered in the whole District was 197, but to these must be added the deaths of 52 persons belonging to the District, who died in the Workhouse Infirmary, or in the Asylum, in the Borough of Macclesfield.

Illegitimate Births numbered 10 during 1907.

Cases of Infectious Disease notified.—There were 92 cases of infectious disease notified, viz. : 11 diphtheria, 10 erysipelas, 70 scarlet fever, and 1 puerperal fever. Of these only 2 cases of scarlet fever were removed to hospital.

Zymotic Mortality.—There were 8 deaths from zymotic diseases, viz. : 1 measles, 5 whooping-cough, 1 diphtheria, and 1 diarrhoea. The zymotic death-rate was equal to 0.4 per 1,000 living.

Infectious Hospital Accommodation.—During 1907 arrangements were completed with Macclesfield Corporation by which 14 beds are now reserved for cases from the Rural District in Macclesfield Borough Isolation Hospital. The hospital for small-pox, provided in 1902, has not been in use for the last three years, as no case of the disease appeared.

Scarlet Fever was imported into the District by a boy who had come from Shropshire, and who had been pronounced free from infection, although, as it proved, he had not finished desquamating. The disease was of a mild form, and caused no deaths among the 70 cases notified.

Action taken to Prevent Spread of Infection.—On receipt of a certificate notifying infectious disease, the Medical Officer of Health visits and examines the premises, gives instructions to competent persons, so that they may adopt all available means to prevent any extension of the disease. The source of water-supply and milk-supply are investigated, and frequently dairy cattle are inspected. Sulphur for fumigation and other disinfectants are supplied.

Water-supply.—The greater part of the District is supplied by springs and deep wells. Most of the houses in Langley and Poynton receive water by means of pipes running from receiving cisterns.

Macclesfield Rural District.

The opposition to the proposals of the Rural District Council for improving the water-supply of Rainow still continues ; an effort has been made to float a company with the object of taking over Mr. Mellor's waterworks and extending them ; so far these efforts have not been successful

Fourteen additional houses were supplied from the Council's water undertakings. The number of houses now so supplied is as follows :—

Upton	38
Prestbury	41
Butley	50
Tytherington.....	23
Taxal	87

In Poynton 5 additional houses were supplied from Lord Vernon's water mains, making a total of 524 ; in Chorley 39 houses, and in Great Warford 29 houses are supplied from the Stockport Corporation mains ; in Eaton 29 houses are supplied from the waterworks of the adjoining Urban District of Buglawton ; in Hurdsfield 80 houses are supplied from the waterworks owned by Mr. Brocklehurst ; in Rainow 53 houses are supplied from waterworks owned by Mr. Allen ; in Sutton 100 houses are supplied from waterworks owned by Mr. Whiston. There were 1,569 yards of 4-inch and 496 yards of 3-inch mains laid in Butley ; 2,326 yards of 4-inch mains laid in Tytherington ; and 1,102 yards of 3-inch mains laid in Prestbury, and these new works are vested in the District Council. In Great Warford 1,500 yards of 3-inch mains were laid by the Stockport Corporation ; and 780 yards of 3-inch mains were relaid in Hurdsfield by Mr. Brocklehurst, to replace old inefficient mains. There were 9 samples of water sent for analysis, 6 of which were reported unfit for domestic use. Steps were at once taken to prevent use of these waters for domestic purposes. Fourteen Certificates for 21 houses, were granted under the provisions of Section 6 of the Public Health (Water) Act, 1878.

Sewerage and Sewage Disposal.—The greater part of this District being scantily populated possesses no deep sewerage system. Earth closets are in general use and their contents are returned direct to the land ; this system if properly carried out has many advantages.

Some parts of Poynton have a water carriage system which is connected to the general sewerage scheme of the District.

Macclesfield Rural District.

The effluent Outfalls from Sewage Disposal Works, where they discharge into streams in the District, were visited at intervals. There was less pollution of the streams from these sources than has been the case in years past.

Ten houses were newly drained into the sewers at Poynton ; 497 houses are now so drained. All the samples of the final effluent, which were collected and analysed by the staff of the Mersey and Irwell Joint Committee, were of a satisfactory degree of purity.

Seventeen hundred and thirty-four yards of new sewers were laid in Coppice Road and Shrigley Road, Poynton. These are now available for the drainage of 37 houses which are now having their drains connected to the new sewers. A large extent of building land is opened out by this new provision, as the same route is already traversed by gas and water mains.

Complaint was received from the Mersey and Irwell Joint Committee of some pollution of the River Goyt, by sewage from part of the Township of Taxal, in combination with sewage from Whaley Bridge and neighbourhood. A conference of representatives of the various District Councils concerned was held, and an Engineer was appointed to report upon a proposal to formulate a joint Sewerage Scheme.

Complaint was also received from the Joint Committee of some pollution of the River Bollin, by sewage from the village of Prestbury. Negotiations were re-opened with the Macclesfield Corporation upon the subject of receiving this sewage into their outfall sewer, which passes through Prestbury, and these are now progressing satisfactorily.

House Accommodation.—This is generally speaking good ; the majority of the houses are farmhouses, though Poynton is tending to assume an urban character ; the surroundings generally are clean, and each inhabitant has an average of 5 acres of air space round his dwelling.

Supervision is exercised over the erection of new houses.

Report of Surveyor and Inspector.—Much information is furnished in Mr. James Thorp's report as to matters coming under his supervision. From this it appears that a large amount of work has been done.

Macclesfield Rural District.

Abatement of Nuisances.—During the year there were 10 statutory notices served for the abatement of nuisances, for the provision of water-supply, or efficient drains. The abatement of a large number of nuisances was obtained without formal notice. In no instance were further legal proceedings taken. There were 44 inlets to drains trapped, 22 damp houses were newly drained, and many other nuisances, arising from obstructed drains, inefficient disposal of drainage, the keeping of animals, and accumulations of house refuse were abated.

Dairies, etc.—Generally speaking the condition of the dairies, especially on the larger farms, is very good; more attention too is now paid to the condition of the cows than was formerly the case. The risks of contamination at the farm are few compared with those introduced by the consumer himself, who, if in a humble station of life, often sends a dirty child with a dirtier beer-jug for a half-penny worth of milk a day.

Six persons were registered under the Dairies, Cowsheds, and Milkshops Order, 1885. Three-hundred-and-ninety-six persons are now registered. Most of the premises were visited and were usually found in satisfactory order with regard to cleanliness.

Slaughter-houses.—The slaughter-houses were visited at intervals, and were found clean and in good order. Two of them were re-floored and re-drained. Two slaughter-houses were newly licensed.

New Buildings.—Thirty-one sets of plans were submitted and approved under the bye-laws with respect to new buildings and to new streets. The buildings proposed comprised 51 houses, 1 school, and 1 workshop. These buildings and other works were visited frequently during construction, to see that the bye-laws were being complied with.

Factories and Workshops.—During the year 17 inspections of factories and workshops have been made. No defects were discovered. There are 14 factories and 3 workshops on the register.

Section 22 of the Public Health Acts Amendment Act, 1890, is in force in parts of the District.

As regards home work, 12 inspections of outworkers' premises have been made, the conditions under which the work

Macclesfield Rural District.

is carried out being satisfactory, one outworker residing at a farm seven miles from the town from which the little work she does is given out.

Two lists of outworkers have been received.

Canal Boats.—Nineteen canal boats were inspected under the Canal Boats Acts, 1877 and 1884. The boats were registered for 60 adults, and they contained 31 men, 7 women and 14 children, a percentage of 59.6, 13.5, and 26.9 respectively, as compared with 88.5, 8.2 and 3.3 in the previous year. This unusual percentage of women and children was due to the temporary use of this route between the Midlands and Manchester, after the collapse in Mid-Cheshire of a portion of the route usually followed by boats working between those places. No infringements of the Acts or regulations were met with, nor was any case of infectious disease found on any of the boats.

MALPAS

Rural District.

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—4,488.

Estimated Population in middle of 1907—4,410.

Area in acres—21,406.

Birth-rate per 1,000 living—24.2

Death-rate per 1,000 living—9.7.

Death-rate from 7 principal Zymotic Diseases—0.2.

Deaths under one year to 1,000 births—65.

The population of Malpas Rural District was 4,488 at the Census in 1901. The population of the same area was 4,624 at the Census in 1891. The decrease in the population during the decennium 1891-1901 was therefore 136, that is, nearly 3 per cent. The estimate of the population made for the middle of the year 1907 is therefore a little lower than the population at the last Census.

The Rural District includes the following townships (civil parishes):—Bickley, Hampton, Larkton, Duckington, Edge, Overton, Malpas, Chorlton, Cuddington, Oldcastle, Newton-by-Malpas, Stockton, Wyclough, Wigland, Agden, Chidlow, Bradley, Macefen, Tushingham-with-Grindley, Wirswall, Marbury-with-Quoiseley, Norbury, and Threapwood.

Malpas Rural District.

In 1907 the number of births registered in the District was 107, and the number of deaths registered in the District was 43. The birth-rate is 0.2 below the average in 1897-1906. The death-rate is 3.8 below the average in the same 10 years.

Seven of those who died were under 1 year of age, and 17 were over 65 years of age.

The only death from any of the seven principal zymotic diseases was 1 from diphtheria. There was also 1 death from epidemic influenza. There were 2 deaths from phthisis, 1 from other tubercular disease, 4 from cancer, 2 from bronchitis, 2 from pneumonia, 1 from premature birth, 3 from heart diseases, 4 from accidents, and 1 from suicide.

Cases of Infectious Disease notified.—There were 5 cases of infectious disease notified, viz. :— 2 diphtheria, and 3 scarlet fever. These cases were isolated, as far as practicable, at home. The premises were disinfected in each case, and the children were kept from attending school.

Joint Hospital District formed.—In order to provide hospital accommodation for cases of infection for this District and the neighbouring Districts of Tarvin and Tarporley, application was made late in 1902 to the Local Government Board to form the three Districts into a Joint Hospital District. The official Inquiry was held in February, 1903, and the Order constituting the Joint Hospital District and Board has since been issued.

The work of providing hospital accommodation was long delayed, owing to the difficulty experienced in obtaining a site. A plot of land, reported on favourably by the Medical Officer of Health, the owner was unwilling to dispose of.

During 1906 the Hospital Board obtained satisfactory accommodation for infectious cases other than small-pox, by an agreement with the Managers of the Chester Isolation Hospital.

Malpas has entered into an arrangement with other parts of the Whitchurch Union and thus secured accommodation for the isolation and treatment of small-pox cases.

Inspection.—The Medical Officer of Health has from time to time inspected the District, and given advice on various matters of detail. Special visits of inspection were made in May and November.

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Water-supply.—The supply to the town of Malpas, and to the township of Bickley, is from the Liverpool mains, but it is intermittent, being turned off at night. Elsewhere the supply is less satisfactory, being from wells liable to pollution.

An improvement was effected during 1903 in the water-supply of Marbury, by the Lord of the Manor. Water was brought from some distance for the supply of the school and adjacent houses. This is supplementary to the supply brought to the village in 1902.

Refuse Removal.—The disposal of excreta is chiefly by combined ashpit privies, the contents of which are removed from time to time and disposed of on land.

Malpas Outfall Works.—In the town of Malpas are a number of water-closets. The town is sewered to three outfalls, and at two of them the sewage is treated in bacteria beds, arranged in two tiers.

Works have recently been constructed for dealing similarly with the sewage at the third outfall.

Inspector's Report.—The Inspector, Mr. Chubb, gives attention to all complaints, and endeavours to obtain abatement of all nuisances reported, or discovered, and the cleansing of dirty premises. He states that during the year a hundred and eight houses, or premises, have been inspected, and 51 re-inspected. Eighty Notices, statutory, or verbal, have been issued, for the amendment of defects discovered. The drains of 8 houses have been put in order, 1 privy repaired, 1 new privy provided. Four new dustbins have been provided, and 5 repaired. Six waste pipes connected with drains have been abolished. Ten accumulations of manure, stagnant water, animal, or other refuse, have been removed. One case of overcrowding has been reported and 2 dealt with. Three wells were cleansed or repaired.

New Houses.—Seven new houses were built or completed during the year.

Factory and Workshop Act, 1901.—There were 80 inspections of workshops made under this Act, and they were all in fair condition. There are 26 workshops on the register, including 8 bake-houses, a saddler, 2 dressmakers, 3 wheelwrights, 3 tailors, and 9 blacksmiths.

Common Lodging-houses.—The three lodging-houses in the District have been inspected.

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Dairies, &c., are visited. Model regulations have been in force since March 1st, 1900. There are 33 Dairies in the District.

Slaughter-houses are inspected from time to time. There are six in all, but they are neither licensed nor registered.

NANTWICH**Rural District.**

Medical Officer of Health—DR. R. T. TURNER

Population at Census, 1901—23,196.

Estimated Population in middle of 1907—23,848.

Area in acres—98,458.

Birth-rate per 1,000 living—24.1.

Death-rate per 1,000 living—11.4.

Death-rate from seven principal Zymotic Diseases—0.2.

Deaths under one year to 1,000 births—66.

The population of this Rural District was 23,197 at the Census in 1901, and the population of the corresponding area was 22,912 at the Census of 1891. The increase in the population during the decennium 1891–1901 was thus 285; that is 1.23 per cent. The estimate of the population made for the middle of the year 1907 is certainly not excessive.

The whole District, for registration purposes, has been divided into 4 sub-districts. These are as follows:—

1. Crewe, having an area of 31,154 acres, and an estimated population of 11,056. It includes Warmingham, Haslington, Barthomley, Crewe (taking in Crewe Green), Willaston, Weston, Basford, Rope, Stapeley, Walgherton, Wybunbury, Hough, Chorlton, Lea, Blakenhall, Checkley-cum-Wrinehill, Bridgemere, Hunsterson, Doddington, Hatherton, Batherton, and parts of Coppenhall Church, Shavington-cum-Gresty and Wistaston.
2. Nantwich, having an area of 21,300 acres, and an enumerated population of 3,468. It includes Coole Pilate, Austerson, Baddington, Edleston, Burland, Faddiley, Brindley, Acton, Henhull, Hurleston, Poole, Stoke, Cholmondestone, Aston-juxta-Mondrum, Worleston, Alvaston, Woolstanwood, Leighton and Minshull Vernon.

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3. Bunbury, having an area of 22,113 acres, and an estimated population of 4,122. It includes Minshull Church, Wettenhall, Bunbury, Alpraham, Calveley, Bickerton, Bulkeley, Cholmondeley, Egerton, Wardle, Haughton, Spurstow, Kidley and Peckforton.
4. Wrenbury, having an area of 23,899 acres, and an estimated population of 4,622. It includes Chorley, Wrenbury-cum-Frith, Woodcott, Broomhall, Dodcott-cum-Wilkesley, Sound, Audlem, Buerton, Hankelow, Baddiley and Newhall.

During 1907 the number of births registered was 578, and the number of deaths registered excluding the deaths of 29 non-residents, and including the death of 1 resident who died outside the District, was 273. The birth-rate is 2.1 below the average in the 10 years, 1897-1906, and the death-rate is 1.6 below the average in the same 10 years.

The birth-rates for the four sub-districts were respectively 24.4, 33.1, 20.6. and 25.0. The death-rates for the four sub-districts were respectively 9.8, 18.1, 9.0, and 11.7.

Infantile Mortality.—Thirty-eight of those who died were infants under 1 year old, a rate of 66 per 1,000 births. The chief causes of death were as follows:—1 scarlet fever, 1 epidemic influenza, 1 diarrhoea, 1 tubercular disease, 4 bronchitis, 3 pneumonia, 4 premature birth, 1 heart disease, and 1 accident.

The Medical Officer considers that two factors account in part for the low rate of infant mortality in 1907; firstly, the cool summer, and secondly, the pamphlet on the care of young children which he prepared and placed in the hands of all registered midwives, with instructions that it should be given to every woman delivered of a living child. There has been considerable demand for these pamphlets.

Deaths from Zymotic Diseases.—There were only 2 deaths from zymotic diseases, a zymotic death-rate of only 0.2.

Coroner's Inquests were held in 28 instances, and the verdicts were as follows: burns 2, scalds 2, fractured neck 1, fractured skull 1, heart disease 3, wilful murder 1, cut throat 1, drowning 4, falls 3, fractured bones 3, convulsions 1, apoplexy 1, natural causes 5.

Cases of Infectious Disease notified.—There were 211 cases of infectious disease notified, viz.: 42 diphtheria, 18 erysipelas, 149 scarlet fever, 1 enteric fever, and 1 meningitis. Of these, 7 cases of diphtheria, 65 of scarlet fever, and 1 of meningitis were removed to hospital.

Nantwich Rural District.

The following tabular statement shows at a glance the cases of infectious disease notified in the District during 1897-1907, and the deaths therefrom:—

YEAR.	CASES NOTIFIED.								DEATHS.							
	Smallpox.	Scarlet Fever.	Diphtheria.	Membranous Group.	Enteric Fever.	Puerperal Fever.	Erysipelas.	Total Annual Notifications.	Smallpox.	Scarlet Fever.	Diphtheria.	Membranous Group.	Enteric Fever.	Puerperal Fever.	Erysipelas.	TOTAL DEATHS.
1897	...	117	11	...	4	1	10	143	...	4	3	...	1	...	2	10
1898	...	94	16	4	14	...	14	142	...	4	1	1	5	...	1	12
1899	...	59	27	...	11	2	14	113	...	2	4	..	...	1	...	7
1900	...	164	9	3	9	1	15	201	...	5	2	1	2	...	...	10
1901	...	79	30	1	7	5	6	128	...	1	8	1	2	2	...	14
1902	...	20	73	...	4	2	9	110	...	...	13	...	1	...	...	14
1903	...	33	24	1	4	...	10	74	...	...	5	1	2	...	...	8
1904	...	79	5	...	4	3	18	110	...	...	...	...	1	1	2	4
1905	...	123	14	2	3	2	11	155	...	1	4	...	...	1	...	6
1906	...	39	41	...	7	1	13	101	...	1	3	...	2	1	...	7
1907	...	149	42	...	1	...	18	200	...	4	2	...	..	...	1	7

Nantwich Rural District.

Scarlet Fever.—During the year 149 cases of scarlet fever were notified to the Medical Officer of Health. Thirty-two of the townships of the Rural District were affected by the disease. The spread of infection was considerably influenced by the presence of the disease in an epidemic form in the Borough of Crewe and the Urban District of Nantwich, both of which areas are enclosed by the Nantwich Rural District. In many cases infection was contracted by children residing in the Rural District but attending school in Nantwich and Crewe. There was one purely rural epidemic during the year, that at Wrenbury. In this case it was clear that infection was taking place at school. The medical officer requested the managers to close the school for a few weeks, and had it carefully disinfected. This action had the desired result. In most of the other cases there is no need for special comment, as there was practically no tendency to epidemic prevalence. Sixty-five cases of scarlet fever from the Rural District were removed to the Isolation Hospital during the year. Thus 43.6 per cent. of the cases occurring were treated in hospital.

The following table shows at a glance the cases occurring in each township during 1907 and the month of their occurrence :—

Townships.	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	T'tls.
Acton	1	...	...	1	2
Alpraham	4	1	...	...	5
Audlem	1	...	2	4	...	...	7
Barthomley	1	...	...	...	...	...	...	...	...	1
Baddington	1	...	1
Brindley	1	...	...	...	...	...	1
Broomhall	1	...	2	1	4
Burland	1	...	2	...	...	...	1	...	4
Bulkeley	1	1
Bunbury	2	1	...	...	3
Bridgemere	1	...	3	...	...	4
Calveley	4	2	...	...	...	...	6
Chorlton	1	...	...	...	1
Church Coppenhall	1	1	...	...	...	...	...	...	2
Coole Pilate	1	...	1
Haslington	3	...	...	1	...	3	...	4	2	2	15
Hough	2	...	...	...	...	...	...	...	...	...	2
Haughton	7	...	...	...	...	7
Newhall	2	3	...	1	...	2	...	...	...	2	3	13
Poole	2	...	2
Ridley	1	...	1
Sound	1	2	...	1	4
Stapeley	2	...	2
Willaston ...	1	...	...	1	2	2	4	2	3	...	3	5	24
Wistaston	3	2	...	5
Wardle	2	...	...	2
Weston	1	...	1
Woodcott ...	3	...	...	...	...	1	...	...	...	...	...	...	4
Woolstanwood	1	1
Wrenbury	4	5	1	...	3	3	...	...	...	...	2	18
Walgherton	1	...	...	...	...	...	...	3	...	...	4
Wybunbury	1	...	...	...	...	...	...	...	...	...	1
Totals ...	4	6	16	3	5	8	17	15	15	23	20	17	149

Nantwich Rural District.

Diphtheria.—This disease was responsible for four deaths during the year. They were as follows :—One at Haslington in March aged 8 months, one at Burland in May aged 26 years, one in the Isolation Hospital (from Haslington) in June aged 4 years, and one at Broomhall in December aged 6 years.

Diphtheria Antitoxin is, in the opinion of the Medical Officer of Health, of great benefit, especially if applied sufficiently early. Antitoxin serum is now within the reach of everyone in the Rural District, as the District Council have instructed the Medical Officer of Health to keep and distribute a free supply of antitoxin for use in cases of necessity and poverty, as a preventative of diphtheria, and as a remedial agent.

Diarrhœa.—Only one death was certified as due to diarrhœa. This occurred in November, and was that of an illegitimate child aged 23 days. One death was certified as due to enteritis, but enquiry made at the time led to the conclusion that this death should not properly be classed among the diarrhœal diseases.

Whooping Cough.—This disease caused only one death during the year, that of a child aged 8 years at Haslington.

Erysipelas.—This disease caused only one death, that of a man aged 74 years at Church Coppenhall.

Enteric Fever was only once reported during the year. A child at Willaston took the disease, was nursed at home, and recovered.

Bacteriological Diagnosis.—Since the beginning of the year 1899, an arrangement has been made in force by which specimens of blood from persons suspected of suffering from typhoid fever, and swabs from the throats of persons suspected of suffering from diphtheria, may be examined bacteriologically by Professor Delépine, of Manchester, at the expense of the District Council. This arrangement has been of the greatest value on many occasions.

Meningitis.—One case of this disease was sent to the hospital, a lumbar puncture was made, and the fluid sent to Manchester; no trace of cerebro-spinal fever was found. A post mortem examination proved that the case was one of tubercular

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meningitis. Another suspected case of a young woman at Haslington turned out not to be cerebro-spinal fever. After the death, house and bedding were disinfected.

The small mortality from zymotic disease is highly satisfactory.

Phthisis.—This disease caused 9 deaths during the year. This is equivalent to a death-rate of 0.3 per 1,000. The rates for the previous seven years were 0.75, 0.6, 0.38, 0.3, 0.6, 0.8, and 0.7.

The small mortality from phthisis is a matter for congratulation.

Other Tubercular Diseases.—Five deaths were ascribed to this group of diseases.

Lung Diseases other than Phthisis.—The deaths of 46 persons were ascribed to this group of diseases. Of these, 27 were due to bronchitis, and 19 to pneumonia. This gives a death-rate of 1.5 per 1,000.

Heart Diseases.—Thirty-five deaths were ascribed to diseases of the heart. This is equal to a death-rate of 1.4 per 1,000.

Preventing the spread of Infectious Disease.—The method of procedure on receipt of a notification of infectious disease is as follows:—On the same day intimation is sent to the master or mistress of the school attended by members of the family, and the exclusion from the school of all coming from the infected house is requested. At the same time a paper of instructions is sent to the head of the family, as soon as practicable the house is visited, the sanitary state of the premises noted, and steps are taken to remedy defects discovered. Advice is given to the head of the family, and disinfectants are supplied.

Disinfection.—Disinfection of rooms has been conducted as in former years, reliance being chiefly placed on the thorough washing of walls, ceiling and floor, with a reliable disinfectant. The disinfecting apparatus at the Isolation Hospital is now available for the proper disinfection of unboilable articles and has been used for this purpose whenever necessary. In this large District it is impossible for disinfection to be done at all times on the day

Nantwich Rural District.

of removal, or even the following day, as frequently during the year there have been two or three cases requiring disinfection at the same time, and often a distance of ten or twelve miles has separated the cases.

Isolation Hospital Accommodation.—Provision is made for the isolation of small-pox cases at the Small-pox Hospital at Ravensmoor. The Nantwich Joint Hospital Board have acquired this hospital, which is kept aired, and in order for the reception of patients. Fortunately it was not needed during 1907. The new hospital at Worleston, which is intended for the reception of scarlet fever, diphtheria, and enteric fever, received 73 cases in 1907. The present nursing-staff consists of a matron, charge nurse, 2 assistant nurses, and a probationer. The hospital was originally constructed to contain 20 adults. Considerably more than that number of children have been accommodated at one time during the year.

Schools.—A few of the schools have been closed with the consent of the managers for short periods during the year on account of infectious outbreaks. Particulars of these periods of closure and the reasons for the same have on each occasion been sent to the Local Government Board.

Rivers Pollution.—The streams entering the District from the Staffordshire border are still much complained of. Their condition is at times very bad. The River Weaver is still much polluted by the sewage of Nantwich and Crewe. No particular improvement is noticeable in the condition of the streams.

Pollution of Ditches, etc.—A number of complaints of the pollution of ditches and water-courses were satisfactorily dealt with.

Midwives.—The Midwives of the District have been visited periodically, and careful instructions have been given them as to the conduct of their work. The Medical Officer is sure that the Midwives Act is having a good effect.

Water-supply.—There have been four additional mains, three of which were short ones, laid in the Rural District during 1907, namely :—195 yards in Bunbury, 180 yards in Haughton, 1,057 yards in Shavington, and 540 yards in Basford ; making a total of 1,972 yards of mains laid during the year. This amount, if added to the length of mains laid prior to 1907, would make a total of 280,283 yards, or 159¼ miles of mains laid in the Rural District. Mains laid by private owners prior to 1901 have not been included.

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Seventy-three additional houses have been connected to the Council's water mains during the past year, making a total of 4,255 houses supplied by the mains in the Rural District since 1879.

The consumption of water throughout the whole District in 1907 was 71,084,000 gallons, in addition to which 1,228,000 gallons were supplied to Bickley for the Malpas Rural District Council. The consumption of water per house per day during 1907 was 56.6 gallons, and the consumption per head of population per day was 10.7 gallons.

The new water main laid in Shavington has fully provided that township with a satisfactory supply of water, and the supply in Willaston, if not as yet perfect in all cases, has at all events been improved. The extra houses put on to the mains in Willaston township have been very considerable during the year, and these, with the large quantities of water previously supplied to that township, will tax to a very considerable extent the capacity of the mains laid in the township. The Willaston supply has been a most successful one financially, and its very success has contributed to its difficulty.

On the Beeston mains it was found that the small capacity of the meters prevented a satisfactory supply of water being given to some of the higher portions of the District, notably at Burland and Brindley. The opening of valves at the various meters rectified the defect, but as this brought with it the difficulty that the meters did not register the supply, it was seen that meters of larger capacity were needed, and the Council decided to have full-bore meters put down where requisite. These have been procured and will be put in as soon as the weather will permit, and by this means a satisfactory supply of water will be provided throughout the whole District.

The extension of the water main in Haughton for Mr. Brocklebank has been very useful, and its further extension is very likely to result in the future. The extension in Bunbury has also been useful, and has supplied houses which had not previously been supplied with water from the mains, but at which there was a suspicion that some portion of the supply was obtained from houses already coupled up with the mains.

The projected waterworks in Chorley, Faddiley, Burland, etc., have been advanced a further step, and the plans for the Chorley, etc. waterworks, together with the estimates for same,

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have been prepared and forwarded to the Local Government Board. Additional water mains for the supply of the houses on Wybunbury, Moss and for Mere Moor, Weston, have been arranged by the Council, and these extensions will no doubt be duly carried out. A supply of water to houses at Englesea Brook has also been projected and it is not unlikely that this extension will be carried out. There has been some re-arrangement of the water mains at Parker's Bridge, Church Coppenhall, in connection with the widening of the railway in that township; this has been carried out during the past year.

The same remarks that were made in the last report with respect to the use of meters in Alpraham has also applied to the past year, but the unfortunate breakage of a private lead pipe at Bunbury locks, and the escape of the water into the canal through defective masonry, points out the necessity for the more frequent use of meters. This waste of water could not be ordinarily seen, and was not detected until the taking of the meter, and the loss was somewhat heavy.

The Stapeley Waterworks have been working satisfactorily during the past year, being supplemented, when required, by means of the additional main laid from the upper mains of the township to the reservoir.

Water Analysis.—Six samples of water were sent for analysis. Four of the samples were taken from public wells, one from the well at Faddiley Day Schools, and three from private wells. Some of the samples were certified as good water and fit for domestic use, two were condemned as being unfit for dietetic and domestic purposes. The public wells situate at Bickerton Schools and Sound Common respectively have been re-constructed and protected against any surface pollution.

Audlem supply is not yet completed, but it is hoped that before long this part of the District will be included in the scheme which is approaching completion.

The Inspector mentions that during the time he has been in office 4,255 houses have been supplied with water, and 160 miles of water-mains have been laid.

Factories and Workshops.—These have been regularly inspected. There were in all 236 visits paid, and five defects were found, three (want of cleanliness) were remedied, and the other two (deficient sanitary accommodation) were still in hand

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at the end of the year. The total number of workshops on the register at the end of the year, was 45. Twelve of these are bakehouses. The outworkers of this District are practically all employed in making garments, and it is highly important that such articles should be made in sanitary places.

There are no underground bakehouses in the District.

Scavenging.—At Willaston, Shavington, Audlem, Wistaston, Church Coppenhall and Haslington, contracts are made by the Council for the emptying of middens and ashpits. The work generally speaking has had due attention.

Cesspit Privies.—Eighteen insanitary cesspit privies have been abolished and movable receptacles provided in lieu thereof.

Ashpit Accommodation.—Ashpits have been provided at seven dwelling-houses for the depositing of house refuse where no provision had previously been made.

Abatement of Nuisances.—Eighteen Statutory Notices were served on persons responsible for the abatement of nuisances ; with one or two exceptions the notices were complied with.

A large number of informal notices were served on owners and occupiers of dwelling-houses requiring the abatement of nuisances ; in most cases immediate steps were taken to abate the nuisances complained of.

A considerable number of complaints of nuisances were received, to which due attention was paid.

In addition to ordinary inspections, which were numerous, complete sanitary surveys were made of 267 dwelling-houses, and a number of farm-houses situate in various parts of the District, the records of which are kept for future reference.

New drainage systems have been provided in connection with one farmstead, one hotel, one villa, and twenty-five dwelling-houses situated in various townships.

The kitchen yards belonging to a number of dwelling-houses have been re-paved and laid with gradients, so as to effectually carry all surplus water on to the yard gully.

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Sewerage and Sewage Disposal.—A scheme for the sewerage of Haslington has been laid before the Local Government Board, and a Local Enquiry has been held with regard to the scheme. At present the result has not been heard. A scheme for the sewerage of Willaston has been approved and will no doubt be shortly sent to the Local Government Board. The sewerage of Sydney, Church Coppenhall, and a part of Audlem has been previously carried out, and although this may not seem a very great work where so much requires to be done, still it shows that even this work is progressing, and will no doubt still further progress in the future. A scheme for the sewerage of Shavington had also been prepared, and the Local Government Inquiry was held with respect to it, but subsequently this portion of Shavington was taken into the Borough of Crewe on the extension of the boundaries, and the sewerage was dealt with by the Borough. Thirty-five years ago, the sewerage of Haslington, Willaston, Church Coppenhall, Shavington, and other semi-urban townships was put in hand as the first work to be accomplished. The progress looked at from this point of view seems to have been very slow, but in each case the Rural Sanitary Authority stipulated that the cost of the works should be thrown on the urban portions of each township by the formation of special drainage districts, and, as this could not be consented to by the Local Government Board, the matter was put back indefinitely, and so it has gone on up to the present time. But it is now hoped that as bright a future may be in store for sewerage as has been obtained for water-supply.

New Buildings.—Plans for 74 new buildings in the District were passed by the Council in 1907.

During 1907 87 cowsheds have been inspected; in 41 cases the necessary improvements that were required to be done under the regulations were found to have been duly carried out. In 17 cases some improvements had been made; in 23 cases nothing had been done, and 6 cow-keepers had been removed from the register through various causes. There are now 352 names on the register of Cow-keepers, 7 being added in 1907 and 6 taken off.

Housing of the Working Classes.—There is again some improvement to record in this matter. In some parts of the District good cottages are being built, and these are never found untenanted. All that is required to retain the population in this Rural District at any rate, is an increased supply of good cottages at reasonable rents; no doubt tenants would readily be found for

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them if the landowners of the District would follow the good example set in some parts of it.

Overcrowding.—Three cases of overcrowding were reported to your Council; prompt action was taken in each case and the nuisance abated.

Dairies and Cowsheds.—This work has had considerable attention during the year, and some progress is to be noted.

Slaughter-houses.—The slaughter houses have been kept under proper supervision, and on inspection were usually found to be in a clean condition. Eight licenses were granted to applicants, five of the premises were licensed for the slaughtering of animals intended for human food and three for knacker purposes. Fourteen carcasses were examined by request; the orders of the Local Government Board were strictly observed in each case.

Diseased Meat.—A considerable number of carcasses have been examined, at the request of the owners, during the year. This has entailed a considerable amount of extra work on the sanitary staff, but the supervision of the meat trade is of such importance that no pains should be spared to keep it under observation.

Anthrax.—A few cases in cattle and sheep have been reported during the year. No case of infection of a human being has occurred.

Glanders and Farcy.—The circular issued by the Board of Agriculture has been placed in the hands of all knackers and occupants of registered slaughter-houses.

Gipsy Vans.—Any living-vans which visited the District from time to time were inspected, and found fairly clean and free from overcrowding.

Canal Boats.—Fifty boats have been fully inspected during the year, and the particulars journalized as usual. Forty-one boats entirely conformed to the laws and regulations, and there were 13 infringements on the remaining 9 boats.

There was absence of certificates in two cases, "Wave" and "Fancy," and there were also three cases of dilapidated certificate, "Belvide," "Cromer" and "Madras." There were no contraventions under the heads of "Marking," "Overcrowding,"

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“Separation of Sexes,” or “Cleanliness.” There was one complaint under the head of “Ventilation,” “Alice.” There were two boats which required painting, “Alice” and “Daisy.” There were no complaints under the heads of “Removal of Bilgewater,” “Provision of water-cask,” “Notification of Infectious Disease,” or “Admittance of Inspector.” In five cases some repairs were required, “Circe,” “Rush,” “Madras,” “Alice” and “Daisy.” No legal proceedings have been taken during the year.

In all cases complaints in connection with the regulations have been brought to the notice of the owners, and satisfactory replies have been received. No cases of infectious disease have been found among the boats on the canals during the past year.

There were 28 women on the 50 boats inspected and 28 children, 10 being children between the ages of 5 and 12, and 18 being children of 5 years of age and under. On 9 boats there were women and no children, and on 15 boats there were both women and children on board. On 26 boats there were men only on board. Thirty-two boats were the only homes of their captains, and 18 captains had homes apart from their boats.

The Inspector, Mr. Davenport, remarks:—“There is no doubt that the fact of a large number of boats belonging to the Shropshire Union Railway and Canal Company, is to a great extent the cause of the satisfactory reports which can be made on this canal; this Company has always assisted greatly in the carrying out of the Canal Boats Act. In this—my last report probably under these Acts—I cannot forbear mentioning the difference in the canal boats and their population in this year 1907, compared to their condition before the passing of these Acts.

“My first report to the Nantwich Rural Sanitary Authority and subsequently to the Local Government Board upon the canals in this District was prior to 1877, and the quarrellings among the boatmen and boatwomen therein described and the bad condition of the boats is a matter now of memory only, and I can bear testimony to the great improvement that has taken place in the canal boats and their population. Things have altogether changed for the better, but certainly it would be preferable if the women and children were kept off the boats, and I am in hopes that in the future it may be found possible to carry out so great an improvement.”

NORTHWICH

Rural District.

Medical Officer of Health—DR. H. E. GOUGH.

Population at Census, 1901—22,073.

Estimated Population in middle of 1907—23,990.

Area in acres—54,310.

Birth-rate per 1,000 living—23.0.

Death-rate per 1,000 living—13.0.

Death-rate from seven principal Zymotic Diseases—1.3.

Deaths under one year to 1,000 births—99.

The population of this Rural District was 20,954 at the Census in 1891, and 22,073 at the Census in 1901. The increase of the population during the decennium 1891-1901 was thus 1,119, that is 5.34 per cent. The estimate of the population for the middle of the year 1907, does not appear to be excessive.

The whole District, for registration purposes, has been divided into four sub-districts. These are as follows :—

- 1.—Weaverham, having an area of 17,978 acres, includes Delamere, Eddisbury, Oakmere, Cuddington, Weaverham-cum-Milton, Crowton, Acton-by-Weaverham, Little Leigh, Barton, and Hartford.
- 2.—Northwich, having an area of 10,904 acres, includes Cogshall, Comberbach, Marbury, Marston, Wincham, Lostock Gralam, Peover Nether, Allostock, Anderton, Leftwich, and Winnington.
- 3.—Over, having an area of 12,475 acres, includes Marton, Darnhall, Eaton-by-Davenham, Little Budworth, Wimboldsley, Clive, Moulton, and unnamed areas, formerly detached parts of Marton and Over civil parishes.
- 4.—Middlewich, having an area of 12,953 acres, includes Davenham, Rudheath, Whatcroft, Bostock, Stanthorne, Sproston, Byley, Lach Dennis, and Kinderton.

The population of these four sub-districts, at the middle of the year, 1907, is estimated to have been as follows :—

Weaverham	9,350
Northwich	8,300
Over	3,040
Middlewich	3,300

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During 1907 the number of births registered was 554, and the number of deaths registered was 308. From these deaths must be excluded the deaths of 5 non-residents, and to them must be added the deaths of 11 residents which occurred outside the District. Thus the deaths of persons belonging to the District were 304. The birth rate of the whole District is 4.3 below the average in the 10 years 1897-1906, and the death-rate is 0.2 below the average in the same 10 years.

Illegitimate Births.—Fifteen of those born were illegitimate; this is a rate of 2.7 per cent.

Infant Mortality.—Fifty-five infants died before completing their first year; this is equal to 99 per 1,000 births, the lowest rate on record, though only 2 below the average. Thirteen deaths were caused by premature birth, 8 by measles, 9 by lung diseases other than phthisis, 1 by phthisis, and 8 by whooping cough.

Cases of Infectious Disease notified.—The number of these cases notified was unusually high, being 319. There were 230 cases of scarlet fever, 72 diphtheria, 13 erysipelas, 3 enteric fever, and 1 puerperal fever. Of these, 128 cases of scarlet fever, 16 of diphtheria, and 2 of enteric fever, were sent to hospital. Although the hospital accommodation provided was taxed to its utmost capacity, it was not sufficient to stop the spread of scarlet fever. It prevailed throughout the District during the entire year. Most cases of infectious disease occurred in children between 5 and 15 years old, namely, of school age, and the question of dealing with infectious disease without unduly interfering with education is becoming a difficult one.

Zymotic Mortality.—The number of deaths from the principal zymotic diseases was 33, viz., 3 measles, 4 scarlet fever, 10 whooping cough, 12 diphtheria, 2 enteric fever, and 2 diarrhoea.

School Closure.—Many schools were closed during 1907 to prevent the spread of infectious disease. In the case of scarlet fever, on notification to the Sanitary Authority, the school attended can be traced and visited; but in that of whooping cough and measles, both highly infectious in the early stages of the disease, there is no means of knowing of an outbreak until the cases become so numerous as seriously to interfere with school attendance. In these cases school closure has not a fair chance.

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The Medical Officer of Health says—"It is to be earnestly hoped that the new Bill for medical inspection of school children will bring help to the unfortunate children who are now compelled to attend school unless their illness is so severe as to be palpable, or even, if perfectly healthy, they must still run the almost certain risk of going through the whole gamut of infectious disease, for it is certain that school is the great factor in spreading infection. Education is good—very good—but it can only be exercised upon that material which is educable, and that material, let us not forget, is a body endowed with natural faculties, and anything which tends to cripple, to stunt, to weaken, or in any way overburden the natural faculties, which are so infinitely easily interfered with during the years of growth and development, will surely do more to "roll up" than to "roll out" the would-be expanding intellect."

Bacteriological Examinations.—The District Council have made arrangements for the bacteriological examination of material from suspected cases of diphtheria and enteric fever.

There have been 28 swabs from throats sent to Professor Delépine, where diphtheria has been suspected; of these 8 were affirmed, and 20 negatived; 4 of the latter were notified.

No specimens of blood for enteric fever test were submitted.

Supply of Antitoxin.—Arrangements have been made whereby any Practitioner can obtain a supply of antitoxin free of cost, by furnishing the name and address of the patient; the Council reserving the right to charge the recipients if they are deemed not to be necessitous persons.

Isolation Hospital Accommodation.—This is provided at the new Joint Hospital at Leftwich. The old hospital at Marbury has, since October, 1905, been put in good order and set apart for the accommodation of any cases of small-pox which may occur in the Joint Hospital District.

Housing.—The acute need for cottages, houses and land continues, although plans for 23 new houses have been passed, also 7 for additions to existing houses.

Two houses have been condemned as unfit for habitation by the Medical Officer, and the owner of one of these was summoned by the Council for not complying with the notice; as a promise was given to the magistrates, the case was adjourned to allow the owner more time for doing the necessary work.

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Another house which was the cause of a summons last year has been restored during the early part of this year.

The Medical Officer of Health states that the number of plans passed for new houses, "gives no idea of the almost desperate need there is for them, in this and other districts." He continues as follows:—

"The depopulation of the country would not be a matter for consideration if any "country" could be obtained, but suppose any eligible ratepayer wishes to come into the country he cannot get a house or a cottage, he cannot get a small holding, and he cannot get a plot of land upon which to build a house; there is no village green or common upon which he can rest in nine out of ten villages, and in fact the only country open is the dusty high road or the public house, and yet we hear all kinds of reasons piously expressed why the "rural depopulation" goes on. Let the Municipal Authorities acquire land and let it on reasonable terms for building or cultivating, and there will soon be as fine a peasantry in England as ever there was."

Water=supply.—Of 16 samples of domestic water which have been analysed by the County Analyst, 8 were found to be bad, and energetic means have been taken to improve them, extensions of water mains are being carried out in Cuddington, Oakmere, and Delamere, and extensions are contemplated at Sproston, Kinderton, Lostock Gralam, and Wimboldsley.

The Local Government Board have approved plans for a further development of the Sandiway waterworks.

Twenty-one Townships have now a public water-supply.

One water has been disused and fenced off, which was too bad for a cattle supply.

Dairies.—The production of milk is one of the chief industries in this District, and owing to the good farmers and landlords, and also to the standard required by the milk factories, the conditions prevailing in most of the shippons is above the average. Still there are many where bad and careless dairying leads to the contamination, by dirt, of much of the milk, and energetic supervision, with stringent bye-laws, would be a great help in preventing contamination. There are 382 farm shippons registered under the Dairies Order, 7 being newly registered, and 38 have been transferred to new tenants; the owners of 26 have ceased to sell milk.

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Slaughter-houses.—There are 24 of these on the register, and the bye-laws have been enforced, but as only certain parts of the District are amenable to these bye-laws, it is obvious that all the townships should be included in the schedule. This is now being done by the Council.

In some of the townships there have been cases of slaughtering in most improper and unsuitable places, and some amendment of the law, granting more real power over slaughter-houses, is a real and grave requirement; in outlying districts it becomes impossible to control the sale of meat in any way.

Factories and Workshops.—There are 124 of these upon the register, 27 being bakehouses. They have been inspected, and their sanitary condition is good. One hundred and sixty-five inspections have been recorded, and eight nuisances have been dealt with.

There are no home-workers.

Sewerage.—In 14 townships sewerage schemes have been carried out, and are maintained in an efficient state.

Barnton Outfall Works were completed and opened during 1906. They deal with sewage of the lower lying portion of the village of Barnton. The sewage is treated primarily in septic tanks, and is then passed through a clinker filter.

Scavenging.—In 9 townships, viz.: Lostock, Weaverham, Wincham, Marston, Barnton, Anderton, Moulton, Davenham, and Leftwich, there is a public scheme in operation; the remaining villages and townships are dealt with by individual owners. On the whole this work is efficiently performed.

Nuisances complained of or discovered have been reported, and steps taken to obtain their abatement in the usual way.

Canal Boats.—In all 50 canal boats were visited by the Inspector in 1907. Twenty-six were found to conform to the regulations. On the remaining 24 were infringements of the Canal Boats Acts or Regulations made thereunder. The defects on these boats were all remedied before the close of the year.

RUNCORN

Rural District.

Medical Officer of Health—DR. J. ADAMS.

Population at Census, 1901—23,224.

Estimated Population in middle of 1907—25,035.

Area in acres—49,159.

Birth-rate per 1,000 living—25.4.

Death-rate per 1,000 living—13.5.

Death-rate from seven principal Zymotic Diseases—1.07.

Deaths under one year to 1,000 births—84.

The population of this Rural District was 23,244 at the Census in 1901, and the population of the corresponding area was 23,918 at the Census in 1891. The decrease in the population during the decennium 1891-1901 was thus 674, that is 2.8 per cent. The estimate of the population made for the middle of 1907 appears rather high.

The District has, for registration purposes, been divided into three Sub-districts. These are as follows:—

- 1.—Budworth, having an area of 24,160 acres, includes Great Budworth, Seven Oaks, Antrobus, Crowley, Higher Whitley, Lower Whitley, Bartington, Stretton, Stockton Heath, part of Appleton, part of Walton Inferior, Walton Superior, Acton Grange, Moore, Keckwick, Hatton, Daresbury, Newton-by-Daresbury, Preston-on-the-Hill, Dutton, part of Latchford, Grappenhall, and Thelwall.
- 2.—Runcorn, having an area of 9,174 acres, includes Aston Grange, Aston-by-Sutton, Sutton, Stockham, Norton, Halton, Weston, and Clifton.
- 3.—Frodsham, having an area of 15,825 acres, includes Frodsham Township, Frodsham Lordship, Helsby, Alvanley, Manley, Newton-by-Frodsham, Kingsley, Norley, and Kingswood.

The number of births registered in the whole District in 1907 was 638, and the number of deaths registered in the whole District was 356. From the gross total must be deducted the deaths of 16 persons not belonging to the District, who died in the Union Workhouse, or Hospital at Dutton, and of 7 who died in the Manchester Sanatorium, Kingswood, while to them must be added the deaths of 5 persons belonging to the District, who died

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elsewhere. Thus the deaths belonging to the District in 1907 were 338. The birth rate was 2.3 below the average of the 10 years 1897 to 1906, and the death-rate was 6 below the average in the same 10 years. There were 25 illegitimate births, and 613 legitimate births.

Of the 338 deaths belonging to the District, 8 were uncertified, and 24 formed the subject of Coroner's Inquests.

The causes of deaths, according to verdicts returned by Coroners' Juries were as follows :—

Found dead	...	...	2
Accidently drowned	...	...	6
Convulsions	...	...	2
Misadventure, through swallowing aconite	..	...	1
Accidently killed	...	...	5
Heart disease	...	...	2
Apoplexy	...	...	1
Pneumonia	...	...	2
Acute lead poisoning	...	...	2
Natural disease	...	...	1
			—
			24

Infantile Mortality.—Fifty-four of those who died were infants under a year old ; this is equal to a rate of 84.6. In the 10 years 1897-1906 there were 117.7 deaths under a year old to each 1000 births.

The principal causes of deaths amongst infants in 1907 were 2 from diarrhœal diseases, 2 from enteritis, 11 from premature birth, 5 from wasting diseases, 9 from convulsions, and 5 from bronchitis.

This marked diminution of infantile mortality is extremely satisfactory, and it is to be hoped that it will continue. Owing to economic causes, and the conditions of labour and employment, which affect the marriage rate, the birth-rate *must* decrease—in the case of nearly all civilised nations. This saving of infant life should counteract the tendency to a lowering of the population, in comparison with more prolific nations. Any measure, or course of hygienic action which tends to the saving of

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infant life, should receive cordial approbation. In 1899, the infantile mortality was 136.4 per 1000 of registered births ; in 1907 it had fallen to 84.6 per 1000.

Deaths from Zymotic Disease.—There were 27 of these deaths, viz. :—8 measles, 3 scarlet fever, 13 diphtheria, and 3 diarrhoea. This number is equal to a zymotic death-rate of 1.07.

Cases of Infectious Disease notified.—There were 214, viz. :—79 diphtheria, 21 erysipelas, 105 scarlet fever, 6 enteric fever, 1 continued fever, and 2 puerperal fever.

Isolation Hospital Accommodation.—The hospital at Moore is still retained, and kept in readiness for the isolation of any cases of small-pox occurring in the District. In the Report for 1903, it was stated that a hospital for infectious disease, other than small-pox, had been planned, that the plans had been submitted for approval of the Local Government Board, and that a suitable site has been obtained. Progress was made in the erection of this hospital in 1904 and 1905, and it was completed in November, 1905. The necessary furniture was promptly obtained, and it was opened for the reception of patients in December, 1905.

The effect of the Isolation Hospital has not, up to the present, been to greatly decrease the number of infectious cases within the District, but it has not had a fair chance, owing to the limited number of beds available during a period of marked prevalence. The policy adopted was to remove single cases from recently invaded townships, rather than attempt to cope with extensive outbreaks occurring in one township. such as the 20 diphtheria cases in Norley, etc.

One death occurred in the Isolation Hospital during 1907 from diphtheria.

The Steam Disinfector.—The Medical Officer of Health draws attention to the fact that the disinfector (Washington Lyon's) only remains on its present site, near the small-pox hospital, during the pleasure of the Manchester Ship Canal Company. A hundred and sixteen lots of bedding and clothing were disinfected therein during the year.

Water=supply needed for Small=pox Hospital.—The Manchester Ship Canal Company have sometime since removed their water tank which supplied the small-pox hospital

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and disinfecting apparatus contiguous. The water required for the hospital, etc., has to be collected from the hospital roof, or carted for a considerable distance.

The Disinfection of Premises.—A special Report on this subject was submitted in 1903, recommending the practical abandonment of “sulphur fumigation,” except for special cases, and proposing the adoption of spraying by formalin, or a strong solution of hypo-chloride of lime, obtained from bleaching powder. The Council adopted the suggestions, and the new method has now been in operation for some three years.

The apparatus has proved very satisfactory, and will, no doubt, result in more efficient disinfection of infected premises.

Measles.—This disease is not notifiable in the District ; several outbreaks occurred, and several schools were closed. Altogether 8 deaths occurred from measles ; the actual number of cases there is no means of ascertaining, but it must have been considerable.

Whooping-cough.—This disease is not notifiable in your District ; no deaths occurred from it, but it was very prevalent throughout the whole year, and caused, in several cases, the temporary closing of infants' schools.

Scarlet Fever.—This disease was again very prevalent in 1907, 105 cases occurring within the District, compared with 179 in 1906. Three deaths from this disease took place. With only eight beds in the Isolation Hospital allocated to scarlet fever it is somewhat difficult to cope with an epidemic, and, at times, when the hospital is full, it is necessary to leave the patients at home, isolating them as well as the local conditions afford. In all 35 cases were admitted to the Isolation Hospital at Dutton during 1907 and no deaths occurred. As many cases as possible were removed to the hospital, but the greater number had to be treated at home. Several schools were closed on account of this disease, and school closure, under certain circumstances, in Rural Districts appears to have a deterrent effect.

The number of cases and deaths during the ten years, 1897-1906, for the purpose of comparison, is given below :—

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In 1907...105 cases, 3 deaths	In 1902... 57 cases, 2 deaths
„ 1906...179 „ 0 „	„ 1901... 39 „ 1 „
„ 1905...110 „ 1 „	„ 1900.. 33 „ 0 „
„ 1904...101 „ 0 „	„ 1899... 85 „ 6 „
„ 1903... 45 „ 1 „	„ 1898... 34 „ 1 „

Or, an average of 74.2 cases per annum, with 1.9 deaths, for the preceding ten years.

Croup.—One death occurred from this disease, at Weston, but it has been included in the diphtheria cases, as it was undoubtedly a case of laryngeal diphtheria, or membranous croup.

Diphtheria has been prevalent over the District during 1907, no less than 79 cases having been notified. It has been impossible to accommodate all these cases in the Isolation Hospital. It is difficult to believe that the generally impure and defective condition of the casual water supplies was not responsible for a large proportion of the disease; but on the other hand the condition of affairs at the schools left much to be desired, and school infection must be looked upon as answerable for a fair proportion of extension.

Anti-diphtheretic Serum is supplied to medical men in the town on application, free for needy patients. The Medical Officer has always a fresh supply on hand, and is able to send it at the shortest notice even to applicants some miles distant.

Typhoid Fever.—Six cases were notified; 3 were removed to the Isolation Hospital. The other three cases were not removed, the patients' friends refusing the offer of removal. All 6 cases recovered, and no death from the disease occurred during 1907. In 1906, 16 cases were notified, and 6 deaths occurred. This is almost the smallest number of cases of typhoid fever which has occurred for several years, and the fact may be attributed to the improved sanitary arrangements carried out in various portions of the District.

For purposes of comparison, the following Table shows the incidence of this disease, and the deaths occurring from it, during the last ten years :—

In 1906...16 cases, 6 deaths	In 1901...27 cases, 4 deaths
„ 1905...17 „ 3 „	„ 1900...15 „ 4 „
„ 1904...10 „ 3 „	„ 1899.. 14 „ 3 „
„ 1903... 1 „ 0 „	„ 1898... 6 „ 1 „
„ 1902...13 „ 4 „	„ 1897... 8 „ 1 „

Or, an average of 12.7 cases, with 2.9 deaths, during the preceding ten years.

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The more the Medical Officer of Health sees of diphtheria, the more convinced he is that it is usually caused by direct infection from one case to another, and that cases are not ordinarily associated with defective sanitation. Much of the recurrence of the disease would be obviated if all cases were treated with local disinfection of the throat, etc., for a fairly prolonged period, after recovery had taken place, that is to say, until bacteriological examination of a swab from the affected part indicated the absence of the diphtheria bacillus. The Medical Officer of Health urges Medical Practitioners to do their best to see that this thorough disinfection of the throat, etc., is efficiently carried out.

In many instances school attendance was the means of spreading infection.

Puerperal Fever.—Two cases were notified, and both terminated fatally. They were not attended by the same midwife. The midwives and their midwifery appliances were disinfected, and no extension of the disease took place.

Examination of Morbid Products.—Towards the close of the year 1902, the Medical Officer of Health suggested that the District Council should make application to Professor Delépine to include this District in the scheme for having products from cases of diphtheria, enteric fever, etc., examined at the Public Health Laboratory, Victoria University, Manchester, and this was done. Such products are now examined and reported on for Medical Practitioners free of cost.

Anthrax.—Several cases of anthrax in cattle were notified during the year 1907, but no cases in human beings. The Police Authorities in the District are very efficient, and carry out the regulations in reference to anthrax in cattle in a very satisfactory manner. An acknowledgment of this fact is due to them; it is a thankless and disagreeable task.

Phthisis and other Tubercular Diseases.—There were 18 deaths from phthisis, and 5 from other tubercular diseases. The phthisis death-rate was therefore 0.72, and the death-rate from all tubercular diseases was 0.92 per 1,000 living.

Cancer or Malignant Disease.—Twenty-five deaths were attributed to cancer, a number which is equal to 0.99 per 1,000 living.

Runcorn Rural District.

Water=supply.—Runcorn, for a Rural District, is, in the opinion of the Medical Officer of Health, exceptionally well supplied from excellent public sources, derived partly from adjoining urban supplies, and partly from Waterworks constructed within the District. These supplies (four in number) are distributed over the District, approximately, as follows :—

(a) The Liverpool Vyrnwy Water Scheme supplies at present the township of Sutton, and a portion of Aston. In view of the requirements of the new Isolation Hospital at Dutton, the supply from this source has been extended to the hospital. Supplies from these mains have been given to 16 houses in Dutton, 6 of which are farm houses. The extension was made in 1904 to Preston-o'-th' Hill and Preston Brook. By means of it about 70 houses have received new water-supply, and, as many houses here abut on the line of the main, it is probable that about 17 others will shortly be supplied. In the Township of Aston, 10 houses have received this supply, and at Halton and Weston, the Vyrnwy water has been given through the mains of Runcorn Urban District Council. The Union Workhouse while possessing an excellent water-supply for drinking purposes, has had the Liverpool water laid on for the purpose of enabling it to deal with an outbreak of fire, the existing supply being moderate in amount. By this extension to Preston Brook, the Liverpool water practically meets the Warrington water from the other side of the District which comes as far as Daresbury, the adjoining township.

(b) The Warrington Corporation Waterworks has extended its mains into the Rural District so far as now to supply the whole of Stockton Heath, Walton Inferior (with the exception of a few houses), Walton Superior, Moore, a portion of Acton Grange, the greater part of Daresbury, Latchford Without, Thelwall, and a portion of Grappenhall. The remaining portion of Grappenhall is supplied by private waterworks belonging to one of the principal owners, and erected at his own cost.

In 1904 the Warrington mains were extended to Higher Stretton, where about a dozen houses and farms have been supplied. The other portion of Stretton may be supplied by a further extension.

(c) The Frodsham and Frodsham Lordship Waterworks supply Frodsham and Frodsham Lordship, the

Runcorn Rural District.

latter township including the hamlets of Overton, Five Crosses, Bradley, Netherton, and Woodhouses. These works are doing satisfactorily. Two extensions of water mains have been made, whereby about 13 houses have been supplied with water.

(d) The Helsby and District Water Company at present supplies practically the whole of Helsby, and it is hoped, now the District Council have become the proprietors of this supply, that its further extension to Albanley will be carried out.

Thus, the most important and populous portions of the Rural District are supplied, or about to be supplied, with excellent water. The purely rural localities have to rely upon local supplies chiefly derived from wells. Of the townships still without an efficient supply, reference may be made to three.

Norley.—A public enquiry was held during the summer of 1904, in reference to the proposal to supply the Blakemere Lane portion of Norley with the Liverpool Vyrnwy water. Strong opposition to this plan was manifested on the part of influential residents, and an expressed desire was, for the first time, made known to the Medical Officer of Health, to include the entire Township of Norley in any scheme which should involve the expenditure of public funds. It was therefore resolved that all the existing water supplies and available sources of water-supply in Norley, be analysed, previous to any scheme being decided on.

In accordance with this resolution, the existing water supplies were tested. Of 29 supplies in use, or possible supplies, analysed in 1904 and 1905, only one water is returned as "a first class water," that coming from the running pipe at Stanney Brook; another from Forest Well, off Blakemere Lane, is returned as "a good water, fit for domestic use," one to Schoolmaster's house "a very good water," 3 or 4 others "fairly good," and the rest vary from "not good," "doubtful purity," "should be filtered," and so on, to "a bad water," "not fit for domestic use." Of the latter no less than 18 were discovered, which up to the present time have been usable, if not used, by the population of Norley. It is surprising that in a beautiful Township like Norley, far removed from polluting towns or manufacturers' waste, with nothing else to pollute its waters beyond its scattered farms and sparsely sprinkled residences, there should be no less than 18 out of 29 drinking waters "not fit for domestic use,"

Runcorn Rural District.

and it specially emphasises previous recommendations of the Medical Officer of Health, that the water-supply to Norley should be improved.

As the result of a Local Government Board Inquiry, it was decided to carry out a scheme for providing the greater part of Norley with Liverpool water.

The work of laying water-mains in this parish is fast approaching completion, in connection with the adoption of the Liverpool water-supply to this Township, and all accessible towns on the line of conduit are already connected.

Bartington.—This supply has not yet been improved, in consequence of some engineering difficulties of an unexpected character, occurring in the course of the projected improvements.

Appleton.—As the extension of the Warrington water mains to Stretton implies their being laid through Appleton, the portion of Appleton abutting on the extension may thus be provided with Warrington water. No houses or farms at Appleton were thus supplied in 1904, 1905, 1906, or 1907.

There is, of course, great difficulty in obtaining efficient supplies for so large a District, and so scattered a population. Still, it is for the Sanitary Authority to ensure that as good a supply of drinking water as is obtainable should be brought into every dwelling-house, and the Medical Officer of Health accordingly suggests that the District Council should direct that a systematic examination of drinking waters be undertaken, irrespective of complaints, or of notified cases of disease. Much has been done in past years, and up to the end of 1907 as many as 737 samples of water-supplies had been analysed. Still much remains to be done in this respect.

The number of water certificates for new houses granted by the Council during the year 1907 was 11. There were 28 houses occupied under such certificates.

Sewerage and Sewage Disposal.—The Helsby sewerage works and sewage disposal arrangements, which were completed in 1903, have since been in operation, and appear to be working satisfactorily. Many houses have been connected with the sewers, but several still remain unconnected.

Good progress is being made with the alterations in the sewerage of Frodsham.

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The Weston Sewerage Scheme has been completed, and appears to be working quite satisfactorily ; most of the houses are connected to it now.

The scheme continues to work satisfactorily, and should confer great benefit upon the neighbourhood. It seems a great pity that property owners do not at once abolish the effete ash-pit privies throughout the township, many of which are leaking and defective and at least, in need of re-construction.

There is much room for improvement in many localities of the methods of sewage disposal, and also of the removal and disposal of house refuse, alike in populous districts such as Weston and Weston Point, and in purely Rural Districts. Halton is still without its projected sewerage and disposal works. In Stockham a length of sewer has been reconstructed, and other drainage improvements executed. In Sutton an extension of sewer in the upper end of the township has been carried out to meet the requirements of some newly-laid drains from five houses near the extended sewer. It is contemplated to carry out extensive improvements in the sewerage arrangements at Daresbury in the coming year. In Walton Inferior a new sewerage scheme has been completed.

Thelwall Brook, the pollution of which has often been referred to, was, during 1907, in a much improved condition.

The Inspector (Mr. Jas. Farrington) furnishes information as to matters coming under his supervision.

Nuisance Abatement.—Formal notices were served for the abatement of nuisances when this appeared necessary, but the abatement of many other nuisances was obtained without the serving of notices. A large proportion of the nuisances reported or discovered were in connection with defective sanitary accommodation.

Factory and Workshop Act.—The Medical Officer of Health and Inspector have visited and inspected the bake-houses, workshops, etc., in the District, and a register has been compiled. All the requirements of the Act have been carried out. The residences of the out-workers have been inspected and found in good sanitary condition. There are no underground bake-houses in the District.

Lodging-houses have been visited from time to time by the Inspector.

Runcorn Rural District.

Dairies and Cowsheds.—The persons registered to carry on the trade of dairymen and cowkeepers number 199. There was one person registered for the first time in 1907. The premises are inspected from time to time, and steps taken to make them as sanitary as practicable. Several cowsheds have been improved during the year, and others are being improved.

Unsound Meat.—In the course of the year the Inspector examined 11 carcasses of meat to see if they were unsound, or any part of them. All were passed.

Slaughter-houses were duly inspected ; 2 licenses were renewed.

Offensive Trades.—No complaint appears to have been made in 1907 of effluvia from premises in which offensive trades were carried on.

Canal Boats.—The number of boats inspected in 1907 was 21. These were found to conform to the requirements of the Canal Boats Acts and Regulations made thereunder. On board the boats inspected were 17 women and 12 children.

TARVIN**Rural District.**

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—12,614.

Estimated Population in middle of 1907—12,530.

Area in acres—56,874.

Birth-rate per 1,000 living—20.6.

Death-rate per 1,000 living—11.2.

Death-rate from seven principal Zymotic Diseases—0.8.

Deaths under one year to 1,000 births—105.

The population of Tarvin Rural District was 12,614 at the Census in 1901, and 12,703 in the corresponding area at the Census in 1891. The decrease in the population during the decennium 1891–1901 was thus 89. The estimate of the population made for the middle of 1907 is, therefore, a little lower than the Census population.

Tarvin Rural District.

This large Rural District is not divided into sub-districts, but it includes no less than 58 townships. These are as follows :-- Broxton, Tilston, Horton, Grafton, Carden, Stretton, Caldecutt, Crewe, Farndon, Churton-by-Farndon, Barton, Clutton, Kingsmarsh, Coddington, Chowley, Aldersey, Harthill, Edgerley, Churton-by-Aldford, Aldford, Buerton, Lea Newbold, Churton Heath, Saughton, Iddinshall, Waverton, Huxley, Hatton, Tattenhall, Golborne Bellow, Newton-by-Tattenhall, Handley, Golborne David, Foulk Stapleford, Bruen Stapleford, Burton, Clotton Hoofield, Dutton, Willington, Kelsall, Ashton, Mouldsworth, Horton-with-Peele, Tarvin, Hockenhull, Pryors Hayes, Barrow, Guilden Sutton, Cotton Edmunds, Cotton Abbots, Rowton, Huntington, Tiverton, Tilstone Fearnall, Beeston, Burwardsley, Shocklach Church, and Shocklach Oviatt.

In 1907 the number of births registered was 258, and the number of deaths registered in the District was 137. To these deaths must be added 8 deaths of residents which occurred outside the District, and from them must be deducted the deaths of 4 non-residents who died in the District. This makes the number 141. The birth-rate is 4.2 below the average in the 10 years 1897-1906, and the death-rate is 2.4 below the average in the same 10 years.

There were 3 deaths from whooping-cough, 2 from diphtheria, 1 from enteric fever, 3 from epidemic influenza, 5 from diarrhoea, 2 from enteritis, 1 from other septic disease, 5 from phthisis, 3 from other tubercular diseases, 14 from cancer, 13 from bronchitis, 8 from pneumonia, 2 from alcoholism, 1 from venereal disease, 2 from premature birth, 2 from accidents of parturition, 12 from heart diseases, 3 from accidents, and 2 from suicide.

Cases of Infectious Disease notified.—There were 45 cases of infectious disease notified, viz.: 20 diphtheria, 4 erysipelas, 20 scarlet fever, and 1 enteric fever. Of these, 7 were removed to hospital, viz., 3 cases of diphtheria, and 4 of scarlet fever. The cases were of a mild character, and were largely imported by children attending schools in the District, while residing outside. In one family 7 children had scarlet fever without any one being aware of the fact. When some after effect required the parents to send for a doctor, he found that all the children were peeling, and notified the fact. There was no great spread of infection.

School Closure.—During the year 4 schools were closed, one on account of diphtheria, one for scarlet fever, one for measles, and one because the attendance had fallen off, owing to mumps.

Tarvin Rural District.

Isolation Hospital Accommodation.—It has already been reported that the Councils of this District, Tarporley Urban District, and Malpas Rural District, applied to the Local Government Board and obtained the formation of a Joint Hospital District. The Joint Hospital Board selected a site for a Hospital, this site being approved by the Medical Officer of Health and the County Medical Officer, but the owner of the land was unwilling to sell the land. It was at first proposed to apply for a Provisional Order to obtain the land otherwise than by agreement, but eventually an arrangement was made with the Chester Authority, for the reception of infectious cases into their Isolation Hospital.

Inspection.—The Medical Officer of Health has visited the District from time to time for the investigation of cases of infectious disease and general inspection, and has advised thereon as to points of detail in connection with sanitary work. He has also given advice with regard to the sewerage scheme for the Township of Waverton, in response to an application from the Local Government Board, as to the need, if any, for sewerage this Township.

Water-supply.—Aldford, Churton, and Saughton are supplied with water from the Wrexham waterworks, the mains having been extended by the late Duke of Westminster, who also caused Waverton to be supplied with water from a well, the water being raised by a windmill.

The Village of Ashton has been supplied with water by the owners of the estate, by means of a gravitation scheme. The water is obtained from springs in Delamere Forest.

Steps are being taken to provide a supply for the Township of Newton-by-Tattenhall, the existing supply being insufficient, and the inhabitants having applied for water. Beeston, Tilston, and Tiverton are well supplied from their own works. The Public Pumps throughout the District are kept in order by the Council.

Tarvin Village is dependent upon ordinary wells for water. One of these wells (that at the top of the village) was constructed by the Rural Sanitary Authority. There is a second public well at the end of the village. One public well has been deepened, and both have been afforded additional protection from surface contamination. There are other wells in the village yielding good water, and some yield water which is not good. All these Tarvin wells are, of course, in some degree liable to pollution, and several efforts have been made in past years to

Tarvin Rural District.

introduce a pure supply from without. This would not only be safe as regards health, but would save much labour in pumping and carrying. Some of the local ratepayers are anxious for a proper water supply, but a large proportion resolutely oppose incurring the necessary expense.

Increase of Building at Waverton.—The increase of building in this Township, constituting a new village, threatens to raise a sewerage difficulty in a troublesome form. The Council feel the incongruity of the want of system which allows people to come into a country district, and to erect houses on a considerable scale, without making any arrangement for sewerage, or in the slightest degree consulting the ratepayers of the Township, who, in the present state of the law, are ultimately put to the cost of providing sewerage.

Sewerage and Sewage-treatment.—The District being thinly populated, and not having many large villages, there are few sewers, and water-closets are comparatively rare.

Works for the purification of the sewage of Aldford, constructed by the late Duke of Westminster, commenced working during the year 1899. Works for the purification of sewage have also been constructed at Eccleston Ferry. At the Aldford works the "International" process was made use of, but they underwent reconstruction in 1903.

At Eccleston Ferry the Scott-Moncrieff process has been adopted—the sewage passing through a septic tank, and then through trays of filtering material.

Plans have been prepared for the purification of sewage at Tattenhall, Tarvin, and Barrow, but the District Council have not yet received sufficient support to enable them to proceed with these.

Practically no progress was made in 1904 or 1905 with the various sewerage schemes, provisionally reported as under consideration. However, delay is not altogether lost time, as improvements are made yearly in the methods of dealing with sewage.

At Barrow there seems to be special need at present for proper Outfall Works. Land is available, and the construction of the works should be proceeded with.

Tarvin Rural District.

Ashpits, etc.—Throughout the District most of the houses are provided with ashpits and privies. These, in some instances, are emptied at short intervals, the contents being used on adjoining land, but generally the emptying awaits the convenience of neighbouring farmers. The District Council have aimed at getting the privies modified so as to approximate as much as possible to earth closets, and much has been done in this direction.

Reports of Inspectors.—The arrangements under which the duties of Inspector of Nuisances are undertaken by the two Surveyors to the District Council, continues to work well in this large District, and progress is being made in removing conditions injurious to health. Mr. Piggott makes a detailed and careful report of his work as Inspector of Nuisances. He reports that during 1907 134 houses, premises, etc., were inspected, and 3 orders were issued for abatement of nuisance; 13 houses were cleaned, repaired, or whitewashed; 7 disinfected after infectious illness; 16 house-drains were repaired; 5 privies repaired, or altered; 3 new dustbins provided; 3 ashpits repaired, or covered; 1 old house newly supplied with water; and 7 wells cleansed, or covered. There has been no case of overcrowding dealt with.

Mr. Carter reports that he has received no complaints of nuisances, but he has inspected 134 houses and premises. Four formal notices for the abatement of nuisance have been served and 31 nuisances have been abated without serving of formal notices. The abatement of several other nuisances was in progress at the end of the year. Sixteen houses have been repaired and cleaned. Five privies have been converted into water closets, 5 new privies provided to old houses, and 3 new water supplies have been provided. Seven wells and cisterns have been repaired and cleaned, and 6 public pumps have been repaired and are working satisfactory at present. The new sewer at Barton, laid in 1906, is satisfactory, and 3 more houses have been connected with it.

Dairies, &c.—Model regulations, made under the Dairies, Cowsheds, and Milkshops Order came into force on January 1st, 1900.

Seventy premises registered for the sale of milk have been duly inspected and kept in order.

Factory and Workshop Act.—In Mr. Piggott's division of the District, there are 9 factories, 7 workshops,

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and 8 bakehouses. In Mr. Carter's division of the District there are 5 workshops and 7 bakehouses. All these are registered and under inspection.

New Houses.—Eight new houses have been built in the District during 1907.

Slaughter-houses.—There are 9 slaughter-houses in Mr. Piggott's division of the District, and 9 in Mr. Carter's division.

TINTWISTLE

Rural District.

Medical Officer of Health—DR. W. E. S. BURNETT.

Population at Census, 1901—2,105.

Estimated Population in middle of 1907—2,300.

Area in acres—13,621.

Birth-rate per 1,000 living—14.7.

Death-rate per 1,000 living—10.4.

Death-rate from seven principal Zymotic Diseases—1.7.

Deaths under one year to 1,000 births—88.

This Rural District contains part of the Township of Tintwistle and the whole of the Townships of Hattersley and Matley. The area is given as follows:—

	Area in Acres.
Part of Tintwistle	11,856
Hattersley	1,060
Matley	705

The area, exclusive of moorland, is returned as 4,646 acres.

The population of this Rural District was 2,576 at the Census in 1891, and 2,105 at the Census in 1901. Thus, during the decennium 1891-1901 there was a decrease in the population of 471.

This is due to the compulsory removal of a number of families from the District, owing to the small extent of work now carried on in two large cotton factories which stopped a few years

Tintwistle Rural District.

ago. These unfortunate events have pauperised the once prosperous village of Tintwistle. There were 90 empty houses in the District at the time of the Census, and 81 of these were in this village. The population of Hattersley and Matley slightly increased between the Census of 1891 and the Census of 1901.

The population of the whole District has slightly decreased since the Census in 1891, owing to the departure of families from want of employment. Numerous stoppages and short-time, during the latter part of 1903, caused much poverty and distress.

In 1907 the number of births registered in the District was 34, and the number of deaths registered in the District was 24. The birth-rate is 7.5 below the average in the District in 1897 to 1906, and the death-rate is 4.3 below the average in the District in the same 10 years.

Infantile Mortality.—Three of those who died were infants under 1 year of age. This number is equal to 88 per 1000 births. One of these deaths was due to diarrhœa, another to premature birth. Two of the 34 born were illegitimate; both are living.

Coroner's Inquests.—The cause of death was investigated by the Coroner in 2 cases. One was that of a female child, 1 year, who died from the effects of dentition, verdict "natural causes"; the other that of a woman, 27, who committed suicide while temporarily insane.

Cases of Infectious Disease notified.—There were 41 cases of infectious disease notified, viz.:—2 diphtheria, 1 erysipelas, 35 scarlet fever, and 3 enteric fever; none were removed to hospital.

Scarlet Fever.—The epidemic of scarlet fever was due to the spread of the disease from Glossop (where it was epidemic in the end of 1906) into this District. There were 20 cases in 9 houses, and 13 in separate houses, making a total in the village of 33. One of the cases was at the Post Office, which was closed for several weeks; another was at Pickness Farm; a child was infected by her mother, who assisted at the Angel Inn, Crowden, where numbers of visitors from Hadfield went during the Easter holidays. The outbreak was of a mild character, and the only child who died was very young, and had bronchitis in addition. It was not found necessary to close any school. As only a small number

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of children attending school took the disease. The chief cause of the infection spreading was the association of parents and young people in the factories mixing daily with others from the infected houses in Hadfield, Glossop.

Diphtheria.—There were two cases of this disease in February; one proved fatal. Antitoxin was used in both cases, but failed in the first, owing to the disease being too advanced. In the second case it proved effectual. There was no sanitary defect on the premises.

Enteric Fever.—The 3 cases notified were all of them somewhat doubtful. No sanitary defects were found on the premises.

Erysipelas.—Only 1 case occurred during the year; it was notified at Matley.

Preventing the spread of Infectious Disease.—On receipt of notification of infectious disease, the premises are examined, and where defects are found the owners are served with notices to remedy them. The patients are isolated, as far as possible, and their clothes and bedding disinfected. The parents of children suffering from infectious disease are given printed papers, specifying the precautions which should be observed in each case, and are instructed to prohibit all other members of the family from attending school, and other people's children from entering the infected house until all risk of infection is over. Information is also given to the schoolmaster.

Isolation Hospital.—The Small-pox Isolation Hospital was erected in 1903, and ready to receive patients in October. It is provided jointly by Hollingworth and Mottram Urban Districts and Tintwistle Rural District. A nurse has been appointed, and a suitable ambulance has been obtained.

In the absence of small-pox no use has been made of the hospital for some time, and the District Council have had under consideration the question of setting it apart for cases of infectious disease other than small-pox. An arrangement has been made with the Ashton-under-Lyne Small-pox Hospital Board to receive any case of small-pox which may arise in Tintwistle.

Water-supply.—This is of good quality and plentiful.

Tintworth Rural District.

Dairies, Cowsheds, &c.—These have been visited and generally found clean and in good order, but in some instances more light and better ventilation has been suggested and provided. In several cases defective drains have been put in order. Regulations under the Dairies, Cowsheds, and Milkshops Orders were made by the District Council on August 8th, 1901, and came into force on October 1st. Dairy cattle in Rural Districts are usually turned out of the sheds in the day time all the year round, unless the weather is exceptionally bad, and are better off as regards plenty of fresh air than those kept in sheds in, or near, large towns.

Milkshops.—There are no milkshops in the District, the supply of milk being obtained from the various farms.

Factory and Workshop Act, 1901.—This Act, which came into operation at the beginning of the year 1902, has had full attention. There is one small factory in the District, and 5 workshops, 2 of which are workshop-bakehouses, 1 boot-shop, and 2 domestic workshops. They have all been visited and found clean, well ventilated, with more air space than is required by the Act. There is no underground bakehouse in the District.

Offensive Trades.—No offensive trade is carried on in the District.

No Common Lodging-house is in the District.

Refuse Removal.—The routine work of emptying ashpits, &c., has been properly done. The disposal of excreta from combined ashpit-privies is generally arranged by the owner or farmer to whom the ashpit belongs, the contents being emptied on the land.

Nuisance Abatement.—All nuisances complained of or discovered have had attention. In course of abating nuisances many structural improvements have been effected.

Inspection.—The Medical Officer of Health and Inspector have made frequent inspections in the District, and where sanitary defects have been observed action has been taken to remedy them.

Tintwistle Rural District.

Inspector's Report.—The Sanitary Inspector, Mr. S. E. Kettlewell reports that he has served notices to owners of property where the following nuisances were found:—choked drains, dirty premises, and other insanitary conditions, and attended to the emptying of closets and ashpits. He further reports that a new drain has been laid, to replace the old one, at a house belonging to Mr. Eastham, where the sewage had overflowed into the Chapel burying-ground. Alterations are in progress in the drainage of Longlands farm, and the insanitary condition of the Miniature Castle Farm, Matley, has been remedied.

WIRRAL**Rural District.**

Medical Officer of Health—DR. G. A. KENYON.

Population at Census, 1901—14,017.

Estimated Population in middle of 1907—16,500.

Area in acres—37,594.

Birth-rate per 1,000 living—24.3.

Death-rate per 1,000 living—10.3.

Death-rate from seven principal Zymotic Diseases—0.2.

Deaths under one year to 1,000 births—65.

The population of this Rural District was 18,629 at the Census in 1891, and 18,099 at the Census in 1901. The decrease in the population during the decennium 1891-1901 was thus 530, that is 2.8 per cent. The decrease is due to the fact that among those enumerated in 1891 at Whitby, Netherpool, Hooton, and Eastham, were 2,432 persons engaged in the construction of the Manchester Ship Canal, who formed no part of the local population after 1892. The normal population of Wirral was therefore considerably increased between 1891 and 1901.

On April 1st, 1902, part of this Rural District (viz.: Whitby Civil Parish) was constituted Ellesmere Port and

Wirral Rural District.

Whitby Urban District. The area of the Rural District was thus reduced by 1,261 acres, and the Census population was thus reduced by 4,082 persons. The Census population of the reduced District was therefore 14,017, and the population for the middle of the year 1906 is estimated to be 16,000. This estimate is based on the number of houses built and occupied since the Census.

The District has for registration purposes been divided into four sub-divisions, viz.:—Neston, Eastham, Bebington, and Woodchurch. Till quite recently the District had but three sub-districts, Brimstage, Poulton-cum-Spital, and Storeton (now constituting the sub-district of Bebington) being part of the sub-district of Eastham. Regarding Neston and Bebington as one sub-district, the sub-districts are as follows:

- 1.—Neston, having an area of 12,113 acres, includes Burton, Gayton, Heswall-cum-Oldfield, Ness, Puddington, Raby, Thornton Hough and Willaston.
- 2.—Eastham, having an area of 10,840 acres, includes Childer Thornton, Eastham, Great Sutton, Hooton, Ledsham, Little Sutton, Netherpool, Overpool, Brimstage, Poulton-cum-Spital, and Storeton.
- 3.—Woodchurch, having an area of 12,598 acres, includes Arrowe, Barnston, Caldy, Frankby, Grange (part of) Greasby, Irby, Landican, Moreton, Pensby, Prenton, Saughall Massie, Thingwall, Thurstaston, Upton-by-Birkenhead, and Woodchurch.

To the Rural District, as thus constituted, must be added what has been till lately the Rural District of Birkenhead. This consists of Bidston-cum-Ford, having an area of 1,713 acres, and Noctorum, having an area of 330 acres.

The number of births registered in the Wirral Rural District in 1907 was 401, and the number of deaths registered was 194. Five of these deaths of residents occurred

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outside of the District, and 42 who died in the District did not belong thereto. Thus the deaths belonging to the District were 171. The birth-rate is 1.0 below the average in 1897-1906, and the death-rate is 2.0 below the average in the same 10 years.

There were only 4 deaths from the principal zymotic diseases, viz.:—2 whooping-cough, 1 enteric fever, and 1 diarrhoea. There were also 2 deaths from epidemic influenza, 2 from enteritis, 1 from puerperal fever, 14 from phthisis, 5 from other tubercular diseases, 14 from cancer, 16 from bronchitis, 10 from pneumonia, 1 from other diseases of the respiratory organs, 2 from alcoholism, 7 from premature birth, 16 from heart diseases, 6 from accidents, and 1 from suicide.

Cases of Infectious Disease notified.—There were 46 cases of infectious disease notified, viz.:—13 diphtheria, 4 erysipelas, 22 scarlet fever, 5 enteric fever, 1 puerperal fever, and 1 cerebro-spinal meningitis.

Typhoid Fever.—Although the total number of cases in the District was small, there was an outbreak of typhoid fever in Clatterbridge Workhouse in October, from which a great many children suffered. Active measures were at once taken, and the disease did not spread beyond the children. There were 29 cases in all, but none proved fatal.

Cerebro-spinal Meningitis.—The case of this disease occurred in March, in a house where there was ample accommodation. The disease was well-marked, but with careful nursing the patient made a good recovery. The origin of the attack could not be traced, but the house where it occurred is situated near the entrance to the Ship Canal, in a place where there is a great deal of traffic.

Infectious Disease.—On the whole there was no great prevalence of infectious disease, apart from the cases at the Workhouse, before mentioned. There were only half as many cases of scarlet fever as in 1906. However, there were an unusual number of cases of diphtheria, 13.

Wirral Rural District.

The infectious cases were scattered, and occurred at intervals throughout the year, and in no case could they be traced to the milk, or water-supply, or to a common sewerage system.

Action taken to Prevent spread of Infection.—All the houses where infectious diseases occurred were visited, removal to Hospital offered, disinfectants supplied as required, warnings against spread of infection issued, children kept from school, removal of insanitary conditions attended to etc. On the termination of a case, the premises, bedding, and clothing were disinfected.

Rooms and ceilings were disinfected, and where necessary the walls were stripped and whitewashed.

School-closure.—On one occasion a school was closed by the Managers as a precautionary measure against the spread of scarlet fever. Another school was closed owing to a case of diphtheria in the Schoolmaster's family. Other Schools were closed for several weeks owing to the prevalence of mumps, whooping-cough, or chicken-pox, causing a great falling-off in the attendance.

Isolation Hospital Accommodation.—This, which is provided by the Joint Hospital Board, consists of the Spital Hospital and the Greasby Hospital, both situated in the District. The Spital Hospital was much enlarged and improved in 1902. Two new wards, each furnished with 8 beds, and 2 isolation rooms each furnished with 2 beds, together with the kitchen, and lavatories were built, forming an additional pavilion. Three bedrooms and a lavatory were also added to the administrative block. The laundry was enlarged and better equipped. In order to effect this Hospital extension, two acres of land were acquired.

New Disinfecting Apparatus and New Destructor.—A good disinfecting apparatus for disinfecting bedding and clothing by steam, and a destructor contiguous thereto, were provided on the hospital ground in 1902.

Wirral Rural District.

Hospital Ambulances.—Two ambulances have been provided for the conveyance of patients.

Covered Vans.—During 1903 a pair of covered vans were built for the carriage of bedding, etc., to the disinfecting apparatus, and for returning the same to the owners.

Hospital Outfall Works.—The Dibdin filter-beds, at the Isolation Hospital, continue to work satisfactorily.

At Thornton Hough, the Local Government Board having refused to grant a Provisional Order for compulsory purchase of land, for sewage disposal purposes, the Council are further considering how best to provide the necessary sewerage for the place.

Sewer Flushing.—The flushing of sewers in eight Townships is supervised.

Refuse Removal.—The District Council contract for the removal of privy and ashpit refuse at Little Sutton, Childer Thornton, Eastham, Heswall, Upton, Bidston, and Prenton.

New Houses.—There were 123 sets of plans passed during the year, for building about 159 new dwelling houses.

Dairies, &c.—Mr. Wallis has under inspection 244 dairies and cowsheds. These are systematically visited to see that they are kept clean and in repair, and that the limewashing is done in the Spring and Autumn.

Slaughter-houses.—There are 8 in the District, which all have the attention of the Inspector.

Factory and Workshop Act.—There are 24 workshops in the District. Of these only the bakehouses were inspected. In one instance there was a want of cleanliness. No notice was necessary. In future all workshops will be inspected.

Inspector's Report.—Mr. Wallis continues to give great attention to his duties, which in addition to the more ordinary

Wirral Rural District.

work include the care of the sewers, and the flushing thereof, and the supervision of the contractors who remove the ashpit refuse. Mr. Wallis reports that he has received 71 complaints of nuisances during 1907, and that he has inspected 185 houses, premises, &c., and re-inspected 327. He has served 145 formal notices for the amendment of sanitary defects. At 33 houses disinfection was carried out after infectious disease. At 40 houses repairs and cleansing were done. At 120 houses the drains were put in order, and at 73 houses the ventilation was improved. Forty privies were converted into water-closets, and 11 privies and w.c's. repaired. Three old houses were newly supplied with water, 2 wells were cleansed or repaired, and 19 accumulations of dung removed.

Overcrowding.—Two cases were reported, and abated. Legal proceedings were taken in 1 case, and an order for abatement was granted, with costs.

An Auxiliary Hospital.—The Isolation Hospital accommodation was extended during 1903, by the acquisition of a plot of land at Pensby, with a house upon it. The house was put in good repair, and opened for the reception of convalescent patients. The land is $7\frac{1}{2}$ acres in extent, and with the building thereon, cost £1,275. Putting the house in order, and altering and furnishing the same, cost £400. Loans were sanctioned for these two sums respectively, on August 19th, 1903, and on January 13th, 1904.

Proposed Small-pox Hospital at Willaston.—At the request of the Birkenhead Corporation a Local Government Board Inquiry was held, to consider the proposal of the Birkenhead Corporation, to place a Small-pox Hospital at Willaston. The Medical Officer of Health attended this Inquiry, and gave evidence against the scheme. It was finally decided not to proceed with the site, and the Corporation have arranged with the Wirral District Council for a Joint Hospital.

Inspection.—The Medical Officer of Health has frequently made general and special inspections, and investigated out-

Wirral Rural District.

breaks of infectious disease. In connection with these inspections he has advised the District Council on various points of detail.

Water=supply.—The District is generally supplied with water from the West Cheshire Waterworks, Bidston-cum-Ford and Noctorum are supplied from the Birkenhead Waterworks, and Moreton and Saughall Massie from the West Kirby Waterworks.

The West Cheshire water has of late become unduly hard, which causes great inconvenience from the furring up of boiler pipes, and the unsuitability of such water for laundry work.

It is satisfactory to know that a large water main is to be laid throughout the District, to carry water from the highlands of Wales to Birkenhead. Should circumstances require it this might be made to supply Wirral Rural District also.

Sewerage.—The Fender Valley Scheme is making good progress, the following work has been completed during 1907.

In Bidston, long-standing causes of complaint have been removed by the improvements effected in some of the old sewers.

Moreton sewers are practically complete.

Willaston sewerage has been delayed, but the cause of delay has been removed, and the work is now to be proceeded with.

Administrative County of Chester.

APPENDIX OF STATISTICS FOR 1907.

TABLE I.—Population, Area, Births, Deaths, &c.—

Showing enumerated and estimated population, area, persons per acre, births and deaths, birth-rates, and death-rates, deaths at various ages, proportion of deaths of infants to births, deaths from seven principal zymotic diseases, and corresponding death-rates.

TABLE II.—Mortality—

Showing deaths from certain causes and all causes, classified according to Diseases, Ages, and Localities.

SUPPLEMENT TO TABLE II.—Infantile Mortality—

Showing deaths from stated causes, in Weeks and Months under one Year of Age. (This is Table V., required by the Local Government Board to be filled in by Medical Officers of Health, and appended to their Annual Reports, for the first time in 1905.)

TABLE III.—Infectious Disease—

Showing new cases notified, and new cases removed to Hospital, classified according to Diseases and Localities, and giving particulars as to Isolation Hospital Provision.

NOTE.—The information in these Tables is derived from the returns made by the District Medical Officers of Health on Forms supplied to them by the Local Government Board. The proportion of persons per acre, the deaths from the seven principal zymotic diseases, and corresponding death rates, have been added. The population in 1901, and the areas, are from the full Report of the Census of the County of Chester, the summary to which is dated August 10th, 1902.

TABLE I.—POPULATION, AREA, BIRTHS, DEATHS, &C.

Showing enumerated and estimated population, area, persons per acre, births and deaths, birth-rates and death-rates, deaths at various ages, proportion of deaths of infants to births, deaths from 7 principal zymotic diseases, & corresponding death-rates.

SANITARY DISTRICTS.	Population at Census, 1901	Estimated Population at middle of 1906.	Area in Acres.	Persons to an Acre.	Births.	Birth- rate per 1000 Living.	Deaths.	Death- rate per 1000 Living.	Deaths from All Causes at subjoined Ages.						Deaths under 1 Year to 1000 births.	Deaths from seven prin- cipal Zymotic Diseases.	Principal Zymotic Diseases.	Death-rate	
									under 1 Year	1 and under 5	5 and under 15	15 and under 25	25 and under 65	65 and up- wards.					
MUNICIPAL BOROUGHES.																			
Congleton	10707	10707	2572	4.16	282	26.3	183	17.0	36	19	4	6	52	66	127	7	0.6		
Crewe	42074	47004	2185	23.97	1251	29.1	536	11.1	136	54	25	23	172	123	108	45	0.9		
Dukinfield	18329	20000	1406	14.23	532	20.6	423	21.1	118	73	20	8	122	82	321	62	3.1		
Hyde	37766	34165	3081	11.93	748	21.9	556	16.2	127	53	17	20	218	126	169	51	1.4		
Macclesfield	34631	34624	3214	10.77	704	20.3	580	17.0	85	44	12	21	214	204	120	26	0.7		
Stalybridge	27673	28793	3190	9.29	641	23.2	626	21.7	140	115	17	18	193	143	218	100	3.4		
	166773	176193	15587	11.50	4158	23.6	2901	10.4	642	358	95	96	966	747	154	291	1.6		
OTHER URBAN DISTRICTS.																			
Alderley Edge	9856	3050	599	5.10	57	18.6	33	10.7	6	1	...	...	17	9	105	0	0	
Alsager	2597	2641	2241	1.17	47	17.8	55	13.2	2	1	1	2	13	16	42	1	0.4		
Altrincham	16831	18556	662	27.37	560	25.2	227	12.4	53	31	11	7	71	54	118	22	1.2		
Ashton-upon-Mersey	5993	6201	1622	3.82	189	22.4	81	19.0	14	5	1	6	28	27	100	6	0.9		
Higher Bebington	1510	1612	699	2.30	47	29.1	31	19.2	5	5	2	...	13	6	106	2	1.2		
Lower Bebington	8498	10307	1051	9.80	394	34.4	121	11.7	34	9	5	2	33	38	34	12	1.1		
Bollington	5245	5245	1291	4.06	114	21.7	67	12.7	9	7	3	5	23	15	79	5	0.9		
Bowdon	2788	2830	850	3.29	57	20.6	26	9.9	2	1	1	1	8	14	54	0	0		
Bredbury and Romiley	1891	2029	1678	1.21	54	26.0	30	14.8	10	1	1	...	9	9	185	2	1.0		
Bromborough	1452	1452	2011	0.10	36	24.8	24	16.5	2	1	...	2	8	11	56	0	0		
Buglawton	7916	9433	5086	1.85	184	21.6	92	10.8	14	5	7	10	33	23	76	5	0.6		
Compstall	875	8.0	903	0.97	18	20.4	8	9.1	1	3	...	...	3	3	55	1	1.1	
Ellesmere Port & Whitby	4182	6071	1261	4.91	143	33.2	55	10	24	3	1	5	13	9	112	7	1.1		
Hale	4592	7556	1288	5.86	143	18.9	62	8.2	9	3	1	4	22	23	63	1	0.1		
Handforth	911	935	1312	0.71	19	20.3	12	12.8	1	1	...	...	8	7	...	0	0	
Hazel Grove and Bramhall	7934	9688	5448	1.77	168	17.3	123	12.7	19	8	8	5	45	38	113	4	0.4		
Hollingsworth	2447	2980	2086	1.42	63	21.1	47	18.7	7	7	...	1	15	17	111	5	1.0		
Hooton	5341	6181	334	8.50	152	24.6	68	11.0	15	8	1	...	28	31	...	1	0.1		
Hoyle and West Kirby... ..	10911	13536	2069	6.51	294	29.0	108	8.0	21	8	1	...	51	24	74	13	0.6		
Knutsford	5172	6179	1700	3.61	124	23.3	62	14.7	12	8	1	...	23	18	97	5	0.9		
Lymm	4707	4940	4572	1.13	115	23.2	67	13.5	7	5	...	2	21	32	60	2	0.4		
Lymm	5595	5750	2054	1.88	116	20.1	81	14.1	14	2	...	2	4	30	29	120	2	0.8	
Marple	4669	4950	1032	4.67	143	28.9	79	15.3	14	6	...	4	23	15	98	8	1.6		
Middlewich	8128	3200	1084	2.65	65	17.1	44	13.7	3	4	1	2	10	24	54	1	0.3		
Mottram	7722	7602	703	11.24	211	26.7	144	10.6	31	9	5	3	43	33	146	5	0.6		
Nantwich	4154	4502	9267	1.37	132	39.3	71	15.4	17	10	...	3	20	21	128	8	1.7		
Neston and Parkgate	17611	19390	1397	13.81	526	27.2	267	13.8	64	26	19	13	78	65	121	28	1.4		
Northwich	22773	23930	54180	0.44	654	27.0	314	13.0	55	39	15	16	86	103	99	33	1.3		
Runcorn	16491	17800	1275	18.96	537	30.1	324	18.2	64	59	15	12	118	61	119	62	3.4		
Sale	12088	14440	2006	7.17	350	22.1	139	10.9	39	22	9	8	59	51	118	15	1.0		
Sandbach	5538	5553	2094	2.66	137	24.6	90	16.6	12	6	2	5	26	41	87	1	0.2		
Tarporley	2644	2949	6158	0.42	62	23.7	27	10.3	2	2	1	...	8	14	32	2	0.8		
Wallasey	53579	67009	3349	20.00	1763	26.3	870	13.0	181	78	37	38	309	233	101	51	0.7		
Wallasey	7361	8000	5190	1.57	159	21.1	97	12.1	11	6	3	5	34	38	65	5	0.6		
Winslow	10382	10420	5780	1.80	298	28.5	143	13.7	3	11	8	9	44	40	104	11	1.0		
Winsford	1487	1554	1323	1.17	32	20.5	22	14.1	6	1	1	...	10	4	187	3	1.9		
Yeasdaley-cum-Whaley	1487	1554	1323	1.17	32	20.5	22	14.1	6	1	1	...	10	4	187	3	1.9		
	263673	308448	81805	3.72	7499	24.7	3951	13.0	788	374	162	165	1340	1122	105	310	1.0		
RURAL DISTRICTS.																			
Bucklow	19890	22000	57551	0.38	407	18.5	248	11.3	33	11	10	18	85	91	81	6	0.3		
Chester	10989	11551	55317	0.32	201	17.4	107	9.2	18	5	...	4	30	50	89	5	0.8		
Congleton	12220	12239	40152	0.30	354	28.8	162	13.2	27	15	12	4	50	54	76	14	1.1		
Dusley	2427	2241	2446	1.43	65	19.8	29	8.8	3	1	2	1	16	6	46	0	0		
Macclesfield	15775	16689	75572	0.21	331	19.8	249	14.9	29	10	4	9	96	101	87	8	0.4		
Malpas	4488	4410	21406	0.20	107	24.2	43	9.7	7	5	2	3	97	17	65	1	0.2		
Nantwich	23197	23848	93466	0.24	573	24.0	273	11.4	38	12	9	13	67	134	66	8	0.2		
Northwich	22773	23930	54180	0.44	654	27.0	314	13.0	55	39	15	16	86	103	99	33	1.3		
Runcorn	16491	17800	1275	18.96	537	30.1	324	18.2	64	59	15	12	118	61	119	62	3.4		
Sale	12088	14440	2006	7.17	350	22.1	139	10.9	39	22	9	8	59	51	118	15	1.0		
Sandbach	5538	5553	2094	2.66	137	24.6	90	16.6	12	6	2	5	26	41	87	1	0.2		
Tarporley	2644	2949	6158	0.42	62	23.7	27	10.3	2	2	1	...	8	14	32	2	0.8		
Wallasey	53579	67009	3349	20.00	1763	26.3	870	13.0	181	78	37	38	309	233	101	51	0.7		
Wallasey	7361	8000	5190	1.57	159	21.1	97	12.1	11	6	3	5	34	38	65	5	0.6		
Winslow	10382	10420	5780	1.80	298	28.5	143	13.7	3	11	8	9	44	40	104	11	1.0		
Winsford	1487	1554	1323	1.17	32	20.5	22	14.1	6	1	1	...	10	4	187	3	1.9		
Yeasdaley-cum-Whaley	1487	1554	1323	1.17	32	20.5	22	14.1	6	1	1	...	10	4	187	3	1.9		
	163439	174354	546788	0.32	3922	22.5	2099	12.0	320	145	82	98	640	819	81	121	0.7		
Administrative County	593885	653995	644180	1.01	15579	23.8	8554	13.6	1750	877	399	354	2916	2688	112	722	1.1		

SUPPLEMENT TO TABLE II.
(Local Government Board Table V.)

INFANTILE MORTALITY DURING THE YEAR 1907.

IN THE ADMINISTRATIVE COUNTY OF CHESTER.

Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.		Under 1 Week.	1-2 Weeks.	2-3 Weeks.	3-4 Weeks.	Total under 1 Month.	1-2 Months.	2-3 Months.	3-4 Months.	4-5 Months.	5-6 Months.	6-7 Months.	7-8 Months.	8-9 Months.	9-10 Months.	10-11 Months.	11-12 Months.	Total Deaths under One Year.
All Causes.	Certified	354	97	91	88	630	167	123	122	98	85	103	94	88	89	69	65	1733
	Uncertified	9	..	..	..	9	1	2	2	..	..	..	..	2	1	..	..	17
i. Common Infectious Diseases.	Small-pox ... ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Chicken-pox ... ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Measles ... ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Scarlet Fever ... ..	..	..	..	..	..	..	..	1	1	8	7	11	7	5	10	50	..
	Diphtheria: including Membranous Croup } Whooping Cough ... ..	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	3	..
ii. Diarrhoeal Diseases. (See Notes to Table IV.)	Diarrhoea, all forms ...	1	2	5	7	15	5	6	11	2	5	6	5	2	2	2	1	91
	Enteritis, Muco-enteritis, } Gastro-enteritis	1	1	1	1	4	7	10	8	6	1	3	4	6	1	1	62	..
	Gastritis, Gastro-intestinal Catarrh }	1	..	2	3	6	6	4	5	2	3	4	6	1	1	..	51	..
	Premature Birth	197	23	22	23	270	12	4	4	2	..	2	..	..	3	2	1	38
	Congenital Defects (See Notes to Table IV.) Injury at Birth	44	10	5	3	62	9	1	4	2	3	1	3	1	2	..	88	294
iii. Wasting Diseases.	Want of Breast-milk } Starvation	2	2	2	..	6	..	..	..	..	..	..	..	..	..	..	8	..
	Atrophy, Debility, } Marasmus	42	17	17	13	89	33	22	26	18	11	12	5	2	6	1	3	10
	Tuberulous Meningitis (See Notes to Table IV.) Tuberulous Peritonitis: } Tubes Mesenterica ... ..	..	..	..	1	1	4	6	5	2	5	5	5	1	3	1	228	40
	Other Tuberulous Diseases (See Notes to Table IV.) Erysipelas	1	..	..	..	1	1	..	1	3	2	1	1	..	2	..	12	..
	Syphilis	1	2	1	2	6	2	3	..	..	..	..	..	..	..	..	2	..
iv. Tuberulous Diseases.	Rickets ... ..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	14	..
	Meningitis (not Tuberulous) } .. ..	..	..	1	..	1	3	1	6	4	1	4	1	2	1	3	3	..
	Convulsions	32	18	14	13	77	20	9	18	14	8	12	7	7	8	6	2	27
	Bronchitis	1	2	8	7	18	21	12	9	10	13	13	7	12	13	10	9	198
	Laryngitis ... ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	2	..
	Pneumonia	1	3	2	3	9	16	14	14	10	11	15	16	12	13	16	17	147
	Suffocation, overlying ...	3	1	1	4	9	3	6	1	2	1	..	1	5	..	1	..	2
	Other Causes	28	11	10	6	55	14	13	10	8	8	3	11	9	13	10	6	163
	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	29
	.. ..	363	97	91	88	639	168	125	124	98	85	103	94	90	90	69	65	1750
v. Other Causes.	.. ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Births in 1907—15,579.

Deaths from all causes at all ages in 1907—8,954.

Population estimated to middle of 1907—652,995.



TABLE II.—MORTALITY.

TABLE II.—MORTALITY.

Showing deaths from subjoined causes during the year ending December 31st, 1907, classified according to Diseases, Ages and Localities.

Showing deaths from subjoined causes during the year ending December 31st, 1907, classified according to Diseases, Ages and Sexes.																																			
DISEASES.	Small-pox.	Measles.	Scarlet Fever.	Whooping cough.	Diphtheria and Membranous Croup.	Croup.	Typhus Fever.	Enteric Fever.	Other Continued Fever.	Epidemic Influenza.	Cholera.	Plague.	Diarrhoea.	Enteritis.	Puerperal Fever.	Erysipelas.	Other Septic Diseases.	Phtisis.	Other Tubercular Diseases.	Cancer.	Malignant Disease.	Bronchitis.	Pneumonia.	Pleurisy.	Other Diseases of Respiratory Organs.	Alcoholism—Cirrhosis of Liver.	Veneral Diseases.	Premature Birth.	Diseases and Accidents of Parturition.	Heart Diseases.	Accidents.	Suicides.	All other Causes.	All Causes.	
AGES AT DEATH.																																			
Under 1 year	50	3	91	2	1	...	1	...	3	...	...	100	51	...	2	3	4	90	...	147	163	...	4	...	14	294	11	16	27	...	673	1750	
1 year and under 5 years	166	34	68	55	2	...	1	...	2	...	...	14	22	...	2	3	7	85	8	50	146	...	7	...	...	...	27	20	1	71	339	
5 years and under 15 years	16	26	6	36	1	...	7	...	...	...	...	...	5	...	...	5	20	55	4	6	31	2	...	...	...	1	51	27	5	79	354	
15 years and under 25 years .....	...	2	1	...	...	...	10	...	9	...	...	...	2	9	...	4	81	26	2	7	33	1	2	1	1	...	54	490	105	51	839	2946
25 years and under 65 years	1	2	...	...	...	...	19	...	37	...	...	2	15	11	3	10	395	41	334	235	223	11	24	69	4	...	442	49	9	1396	2688	
65 years and upwards	1	...	35	7	7	...	6	3	20	5	200	357	117	5	17	12		
All ages	233	67	166	93	4	1	39	...	86	...	...	123	102	20	13	28	527	302	548	772	713	19	54	82	19	294	66	1028	269	66	3220	8954	
SANITARY DISTRICTS.																																			
Municipal Boroughs.																																			
Congleton .....	...	...	2	5	...	...	...	...	4	...	...	...	4	...	...	...	9	7	13	15	19	1	...	...	2	5	1	23	3	1	69	183
Crowe	2	6	12	6	...	...	3	...	9	...	...	16	3	...	1	...	27	26	40	44	54	3	9	7	1	28	3	46	16	5	169	536
Dukinfield	41	5	7	...	...	...	1	...	3	...	...	8	19	1	1	5	26	7	13	47	32	...	1	2	3	12	2	45	16	6	120	423
Hyde	17	9	11	5	1	...	3	...	1	...	...	6	1	2	1	...	39	18	25	55	42	...	3	...	16	4	72	8	5	212	556		
Macclesfield .....	...	3	14	4	...	...	3	...	3	...	...	5	11	...	...	...	39	20	22	83	48	2	7	1	...	10	2	62	9	4	206	626
Stalybridge	73	1	14	4	3		
Other Urban Districts.	133	24	60	24	1	...	13	...	20	...	...	37	40	3	3	5	191	92	152	291	236	6	22	22	14	95	14	310	62	25	1009	2904	
Alderley Edge .....	...	...	...	...	...	...	...	...	3	...	...	...	...	...	...	1	2	...	6	1	4	...	...	...	...	...	2	7	2	...	14	33
Alsager .....	...	...	...	1	...	...	...	...	5	...	...	5	2	...	...	1	6	22	12	25	27	...	...	1	...	6	2	3	4	3	62	227
Altrincham	9	2	2	1	...	...	3	...	5	...	...	...	1	...	...	...	9	1	7	4	5	...	...	...	...	...	5	...	...	5	31	
Ashton-upon-Mersey	2	1	2	...	...	...	...	...	...	...	...	...	...	...	...	5	3	1	3	1	3	1	...	1	...	2	...	16	3	...	35	121
Higher Bebington .....	...	1	1	...	...	...	...	...	...	...	2	...	6	1	...	1	8	6	8	10	10	1	...	2	1	5	...	9	...	1	33	67
Lower Bebington	4	...	1	1	...	...	...	...	1	...	...	...	...	...	...	1	2	3	4	6	2	...	...	...	...	...	...	8	2	...	9	26
Bollington	4	...	1	3	2	2	2	1	14	1	1	54	139		
Bowdon	1	6	5	10	5	17	9	2	...	4	13	30		
Bredbury and Romiley	3	...	9	1	...	...	...	...	...	...	...	...	1	...	...	1	2	...	1	3	4	...	...	...	...	1	1	3	1	...	7	24
Bromborough	2	1	1	1	...	1	3	4	3	...	9	2	2	33	92		
Baglawton	2	1	1	1	4	8	
Cheadle and Gatley	3	...	1	1	1	1	1	1	1	1	...	8	...	4	4	1	16	55
Compstall	4	1	4	...	2	6	22	62	
Ellesmere Port and Whiteby	1	...	1	1	1	1	...	1	3	5	6	6	2	5	12		
Hale	2	3		
Handforth	1	12	14	8	12	13	3	...	1	...	15	10	123	
Hazel Grove and Brainhall	2	2	1	...	1	1	...	4	1	2	2	3	2	...	8	22	68	
Hollingworth	1	3	1	2	6	3	6	1	3	2	6	2	11	
Hoole .....	...	...	1	1	1	...	1	1	...	1	...	...	8	1	...	...	19	6	6	2	7	...	...	...	...	...	...	6	1	1	20	62
Hoylake and West Kirby	1	1	1	1	3	4	6	6	5	2	2	9	4	1	24	67		
Knutsford	1	1	2	1	5	2	7	10	2		
Lymm	1	1	1	1	...	9	...	3	10	1	2	...	3	1	12	4	1	29	81		
Marple	1	1	2	1	1	7	7	4	3	9	...	1	1	1	8	21	44	
Middlewich	3	4	1	1	3	4	4		
Mottram	1	7	2	3	17	9	1	...	8	...	14	4	...	52	124		
Nantwich	3	2	...	2	5	1	7	2	6	4	...	6	3	6	2	1	19	71		
Neston and Parkgate	1	...	6	...	...	...	...	...	...	...	...	...	6	7	...	...	14	7	7	18	20	...	3	4	...	4	1	35	15	1	101	267
Northwich	3	...	17	2	2	3	4	8	10	16	29	30	1	10	...	18	15	121	324	
Runcorn	37	1	5	4	12	5	1	14	4	14	16	24	1	2	2	...	8	4	19	8	2	54	188		
Sale	2	3	4	1	3	2	5	6	5	10	1	...	1	1	15	2	2	36	90	
Sandbach	1	1	22	27	
Tarporley	2	2	
Wallasey	6	6	13	7	3	...	12	6	1	11	6	7	2	
Wilmslow	1	...	4	1	...	2	...	5	1	...	5	...	11	11	9	1	...	1	
Winsford	1	...	3	5	
Yarldley-cum-Whaley	1	1	

